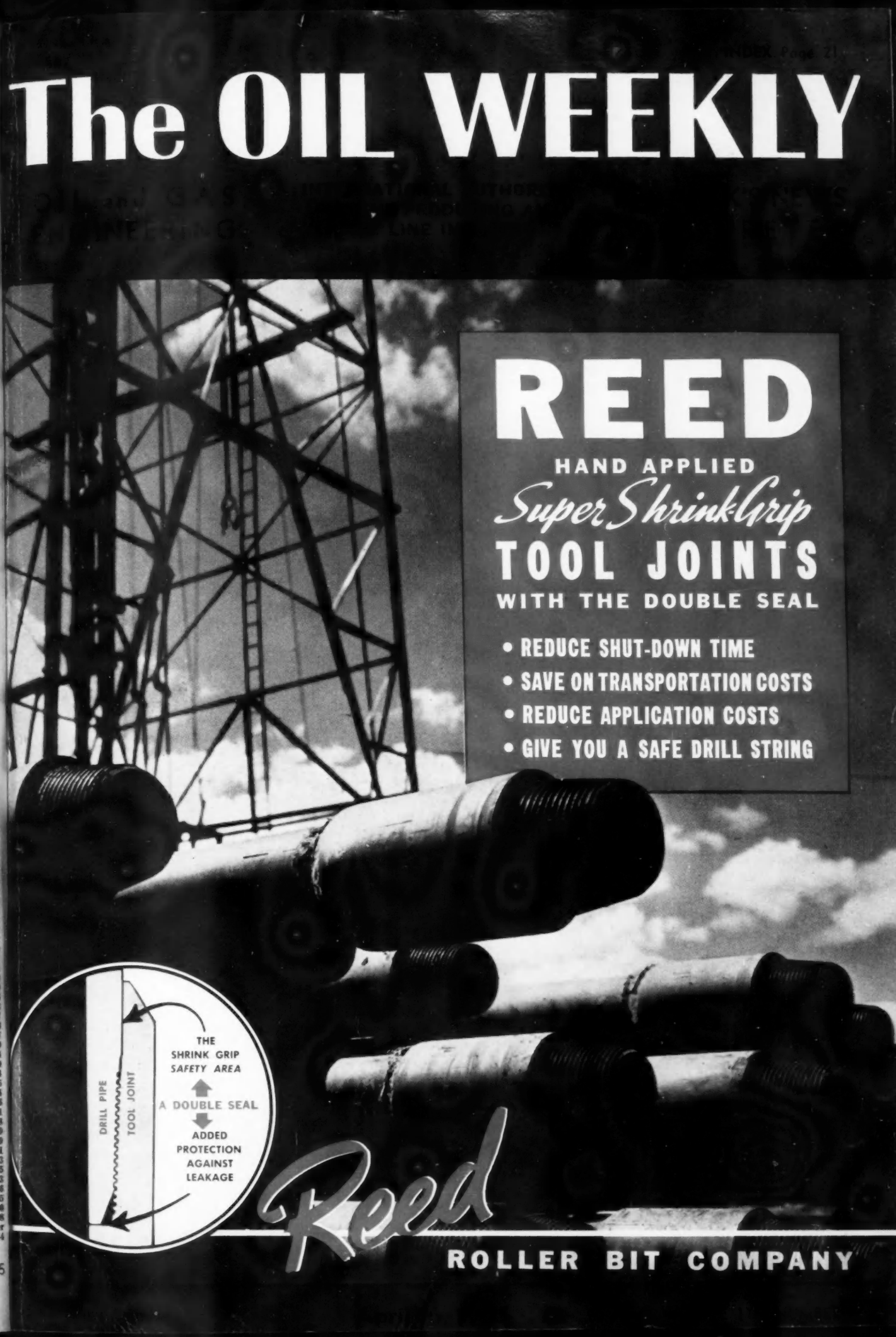
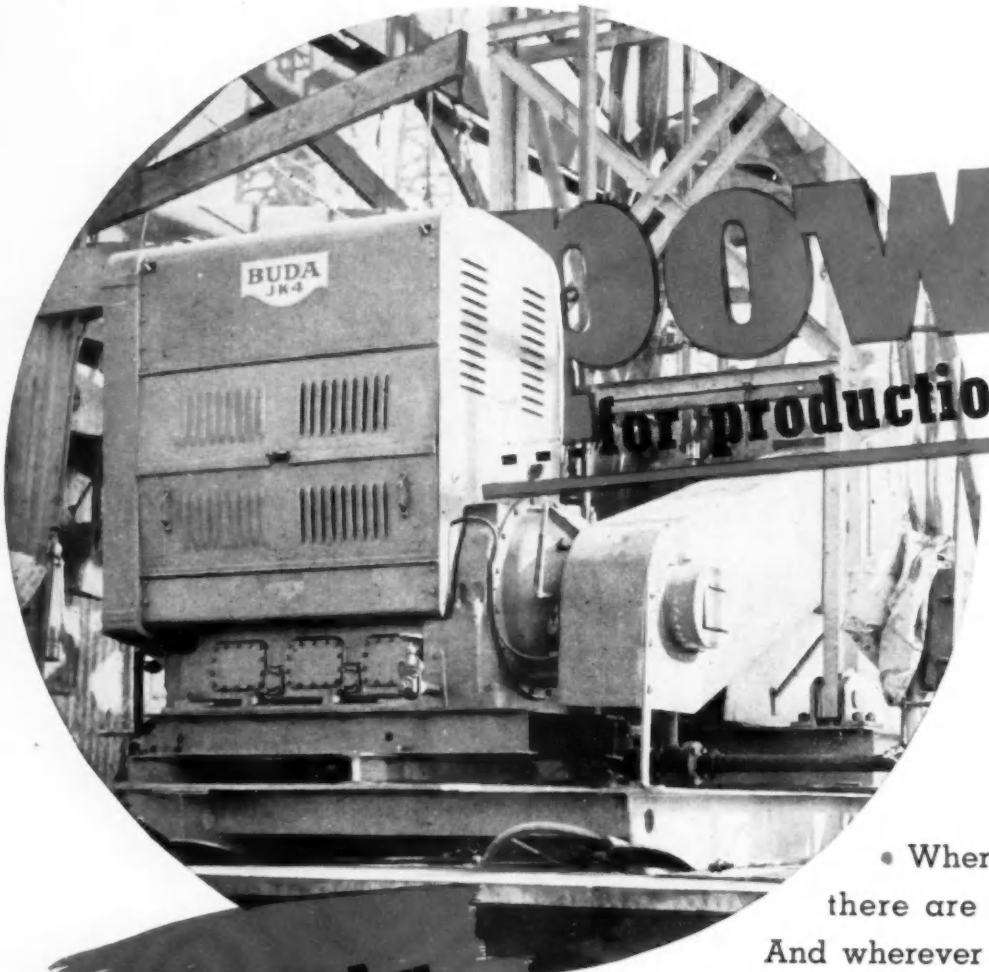
The OIL WEEKLY



power for production pumping



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THE OIL WEEKLY

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LOOKING AHEAD
... with the Editor

A NUMBER of gas desulphurization or purification plants in Southwest Arkansas are converting useless sour gas into such valuable products as condensate, gasoline, sulphur, and sweet dry gas for industrial and domestic purposes.

These plants have not only checked waste of gas, but by converting it into highly essential commodities have allowed the producing fields to be developed. In turn, the development of an adequate fuel source has speeded the industrial development of the area.

A description of results obtained in the McKamie, Arkansas, field is of special interest because the plant operates on gas involving unusually high hydrogen sulphide content. The field also has one of the highest condensate contents known, which has resulted in much development. Because of its hugh sulphur content, general use of the sour gas was prohibitive and the gas was almost unmarketable.

Two companies worked out plans to commercialize the extractable products from the residual sour gas after it has been stripped of its condensate.

H. B. Kniseley, of The Carter Oil Company, describes the operation of the McKamie plant in an article to appear soon, giving full details on results obtained.

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The Lookout

Forthcoming PAW certifications for May production of petroleum in the U. S. will call for the same amount of production as in April, the highest in history.

* * * *

Much surplus government material usable by the oil industry soon will be marketed, among it winches of various types offered by the Maritime Commission. Price levels will be attractive but not low enough to break the regular commercial market.

* * * *

United Nations San Francisco conference will be devoted to policies but tenets set down will blueprint future international relations which will be reflected later in detailed economic arrangements.

* * * *

Further Anglo-American oil pact discussions are not expected until after the San Francisco conference. Meanwhile the State Department is said to be considering plans to play a definite and important role in postwar international oil trade wherever the American industry does business.

* * * *

A movement is developing in the industry that may lead to open opposition to any kind of postwar international petroleum agreement. This follows recent disclosure of secret agreements reached at Yalta, which have produced distrust. Many view as hopeless the chances of effecting a really equitable world oil plan, and are disposed to favor resumption of prewar nationalistic endeavor, subject to known economic laws rather than experimentation in political expediency.

* * * *

Congress is due to take a bigger role in oil affairs what with House and Senate oil committees planning hearings perhaps by early summer. Administrative conflicts on many major questions of national and international policy invite Congressional participation. Top matters: Anglo-American oil pact and increasing domestic oil reserves.

* * * *

Indications are that the May 1 Mississippi hearing will not be a love feast and will perhaps fail of some of its objectives unless the views of one sizeable operator undergo change.

* * * *

Foreign exploration is due for an immediate boom to meet world oil needs of the next two years. Some 95 percent of PAW's foreign geophysical exploration this year is concentrated in the Caribbean area with strong likelihood of new fields and new pays. Much of additional materials available after V-E day will be sent there and to the Middle East so as to boost production. New markets, new products, new uses for oil will develop with war's end.

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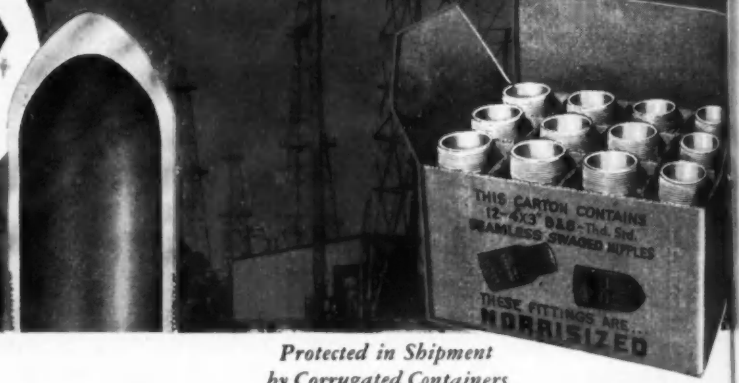

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The Changing Panorama

Should Use Power Cited by Court

THE Texas Railroad Commission should begin to issue natural gas waste prevention directives now rather than awaiting passage of new legislation. Prospects for the state legislature enacting new natural gas conservation statutes at any early date have become dim. The proposed bills are deeply entangled in disagreements shared both by legislators and members of the oil and gas industry, besides facing probable burial on a crowded calendar. Meanwhile, the recent Texas Supreme Court decision is interpreted by the majority as saying present statutes give the commission broad powers to prevent physical waste and adjust correlative rights.

As everyone knows, the threat of federal government control hangs clearly over the heads of the industry at this time. The surest way of preventing federal government interference is to remove the thing that the Federal Power Commission sees as warranting its seizure of authority over the industry. This is gas waste, especially the flaring of gas. It cannot be expected that all gas flares can be snubbed out. The problem is too complex, and immediately runs into economical and physical handicaps. However, to let the situation run along without taking any steps to correct conditions is a direct invitation for federal control. Unless the commission makes an effort to correct the situation, FPC undoubtedly will take the attitude that the commission has been negligent in its duties. In view of the new court decision, others might agree with FPC.

Oil men should assist the commission in any reasonable attempt it may make, since this would strengthen the position of the industry against federal control. The most helpful assistance the industry can give would be to do all it can to reduce gas flares to a minimum.

Postponement of the FPC investigation hearing until fall gives the commission and the industry time at least to show their intentions of doing something about the situation. Not to take advantage of this opportunity would be highly dangerous.

☆

More than half of the states in the United States have petitioned to remove the emergency federal tax on gasoline when the war is over.

—API Quarterly, January, 1945.

When the federal gasoline tax of 1½ cents per gallon is added to the 4.43 cents average tax for the 48 states, the motorist is paying a sales tax of 40 percent on the retail value of gasoline.

—API Quarterly, January, 1945.

Keeping California Refineries Operating

SHIPMENT of West Texas crudes to California has enabled several small refiners to resume operations, some of which are running almost 100 percent on the imported oil. California refiners probably can handle the full eventual goal of 42,000 barrels daily, thus making transportation the problem to be solved.

West Texas crude is going only to those California plants which have been shutdown or to those which can prove their ability to process it without interfering with their charging of Pacific Coast crude. In some cases the resulting high sulphur content gasoline is sent to larger refineries for sweetening.

The crude is 30° API and is delivered in California by Defense Supplies Corporation at a total cost of about $3.35 per barrel. It is sold to refiners at $1.079 a barrel, with DSC absorbing the difference.

Controversy Scares Tideland Lessees

THE question of whether the federal government or the state governments hold title to offshore tidelands is going to raise a lot more dust before it is settled. Battle lines are being drawn in Congress, and Secretary Ickes is determined to force the courts to rule on the issue. However, plenty of time is likely to elapse before the winner is announced.

All that applicants desiring to drill in the Long Beach-Seal Beach, California, area, which revived the ancient quarrel, want to know it who is the owner? The federal government apparently thinks it is. California and other states with tidelands think differently. California has a bill before its legislature which would claim tideland drilling as an interest of the state. But under present conditions lessees would be scarce until it is a certainty that Uncle Sam would not step in at a later date and demand ruinous payment of back royalty.

Sticking to the Job And Just Doing It

A FEW statistics from one of the major companies operating in the Gulf Coast area tell an interesting story of how this organization is meeting its problems in spite of manpower shortage.

In 1939 the total number of people on this company's payroll in the Texas-Gulf area was a little more than 2000. In 1944 the number was the same. About 500 have gone into the service, so at least that number is made up of new employes.

The production department operated 300 leases in 1939, and last year, 400.

The number of producing wells had increased proportionately. In 1939, production was 19,000,000 barrels of crude; in 1944 the figure was nearly 31,000,000 barrels.

In 1939 the land department acquired approximately 500 leases while last year it handled more than 5000.

Production of gasoline and butane was less than 200,000 barrels in 1939. The figure had jumped to 600,000 barrels in 1944.

Total amount of crude oil handled in 1939 was 44,000,000 barrels. Last year the total reached 73,000,000 barrels.

Capital expenditures for 1944 were twice what they were in 1939.

Individual and combined efforts by employes to carry the additional amount of work without an increase in staff have made all this possible. No strikes, no demand for more pay, just sticking to the job and doing it. The record is a great credit to the people making up this company.

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The Week's News

A GRADUAL shift in internal policies including several cabinet changes is seen under President Harry Truman who took office April 12 following President Roosevelt's death. No important modifications in U. S. foreign policy, including petroleum, are anticipated. Story below.

No Fuel Relief—The many predictions that unlimited heating oil would be available to householders next winter were tossed overboard by Deputy Administrator Davies in an uncompromising announcement that only with difficulty would it be possible to maintain the ration level of the past season. Accelerated naval operations in the Pacific, drawing heavily on distillates, will keep civilian supplies low. Page 28.

Pipe Line Study Committee—With an eye to the rapidly approaching postwar period, API President William R. Boyd Jr., set up a special pipe line study committee headed by T. E. Swigart, president of Shell Pipe Line Company, to analyze reports issued by various agencies, government and civilian, and to survey pipe line transportation problems. Story below.

Conversion Outlook Confused—Washington daily becomes more confused about conversion after V-E day, and officials are beginning to make promises which more dispassionate observers fear cannot be kept regarding the speed with which civilian production will get into high gear. Not until the last bullet, bolt and K-ration needed for the Japanese war is counted up will it be possible to say what and how much can be released for civilians.

Materials Prospects Brighten—Materials prospects for the last half of the year have somewhat brightened on the basis of a cut-back in the Army's munitions program and a larger-than-expected inventory of tubular goods in the hands of the industry, even though the cut-back is largely just paper and consists of not building new plants that were projected last December. Page 28.

Co-ops Tax Exemption Fight—Representative Johnson of Illinois says that the very fact that co-ops accumulate surpluses demonstrates that a profit is retained and that they should be taxed. Analysis submitted to Congress. Page 30.

Texas Gas Bill Muddled—Although House and Senate committees approved gas conservation bills, there is little likelihood of passage at this session of the Texas Legislature. Page 32.

Problem of Flared Gas—Texas' committee dealing with the problem of flared gas held its first meeting and authorized the engineering committee to make a detailed survey. Page 32.

Government Plants Disposal—Government-owned plants may be kept off the market for years after the war while their value in terms of employment and production is being developed. "It must be done in such a way as to encourage independent enterprise." Page 30.

Texas and FPC Hearings—Attitude of other gas-producing states will be sought in hopes of presenting a unified front before the first FPC gas hearing early next fall, the Governor's committee of Texas has decided. Page 31.

Argentina Equal Treatment—Argentina will be accorded equal treatment with all other countries in the allocation of needed U. S. commodities, the State Department has ruled. Page 29.

Drilling Costs Fight—PAW is not expected to take any part in the fight to have the intangible drilling costs option written into the Revenue Code. Page 29.

Management in a Squeeze—Two important Gulf Coast refineries are affected by labor troubles in which management is not in dispute with the unions but which nevertheless have affected output of vital war products. Page 29.

Postwar Gas Pipe Line—First application for postwar natural gas operations expansion was filed with the Federal Power Commission by American Light and Power Company, a $70 million pipe line system from the Hugoton field to Michigan. Page 68.

Cabinet Changes Looked for as New President Takes Over Duties

No important modifications of United States' foreign policy with respect to petroleum or other important matters are anticipated in Washington as a result of the change of administration caused by the death April 12 of President Roosevelt, but a gradual shift in internal policies is foreseen under President Harry S. Truman.

First action of the new President was to ask his predecessor's cabinet to retain their posts but observers believe that an appropriate time one or two of its members will be replaced.

The first change is expected to be in the Department of Justice, headed by Attorney General Francis Biddle. Hugh Fulton, counsel of the Truman War Investigating Committee, whose energetic probing was responsible for uncovering deficiencies in the administration's handling of the defense and war programs has been spoken of as a possible successor but it is not believed slated for the job. The men in charge of the war programs, Secretary of War Stimson, Secretary of the Navy Forrestall and Secretary of the Interior Ickes among them, are expected to be retained in office, at least until the fighting is over.

With the passing of President Roosevelt the New Deal goes too. Harry Hopkins and Samuel I. Rosenman, his personal advisors, are expected to have no place in the new administration. Secretary of Commerce Henry A. Wallace will remain in office, President Truman having fought hard for his confirmation against Senate opposition but with little opportunity to put his more radical policies into effect.

The new administration is expected to be conservative in tone, without the colorful imagination with which President Roosevelt approached the many problems of his twelve years in office, and reflecting Truman's ten years of service in the highly-deliberative Senate.

President Roosevelt's death brought from PIWC Chairman William R. Boyd, Jr., the following expression of the industry's sorrow:

"Unfortunately the heart and voice of the great world leader of men and opinion has been stilled.

"The Supreme Ruler of all mankind has issued his summons for Franklin Roosevelt that he might now receive his due reward for duty well done. President Roosevelt was a faithful public servant and future generations will be the beneficiaries of his selfless service to the world's public. His place in history among the world's greatest men is secure. Members of the petroleum industry, in common with good citizens and liberty-loving peoples at home and abroad mourn his untimely death."

Swigart Head of New Pipe Line Study Group

A special pipe-line study committee was appointed April 10 by William R. Boyd, Jr., president of American Petroleum Institute, to undertake what he said was an "important assignment" dealing with a subject of great post-war importance.

The new committee, of which T. E. Swigart, president, Shell Pipe Line Company, Houston, was named chairman, was instructed to assemble and study

available reports pertinent to pipe-line transportation issued by various agencies, such as the Interstate Commerce Commission and the Association of American Railroads, and to make a factual study and analysis of pipe-line transportation problems, reporting the results, with appropriate recommendations, to the executive committee of the Institute.

Members of the committee are: Hines H. Baker, executive vice president, Humble Oil & Refining Company, Houston; James J. Cosgrove, vice president and treasurer, Continental Oil Company, Ponca City, Oklahoma; Fayette B. Dow, Washington; Arthur M. Gee, general counsel, The Ohio Oil Company, Findlay, Ohio; Bert E. Hull, president, Texas Pipe Line Company, Houston; J. Blair Moffett, Sun Oil Company, Philadelphia; Charles R. Musgrave, vice president, Phillips Petroleum Company, Bartlesville, Oklahoma; A. W. Peake, president, Standard Oil Company (Indiana), Chicago, and Sidney Swemsrud, vice president, Standard Oil Company (Ohio), Cleveland.

Gas Measurement Course Expected to Attract 700

Increasing interest in natural gas and the various phases of this industry is reflected in an anticipated registration of 700 expected to attend the three-day Southwestern Gas Measurement Short Course to be held April 17-19 at Oklahoma University, Norman, Oklahoma. Because of the importance of the work which it accomplishes the War Committee on Conventions of the Office of Defense Transportation has ruled that the meeting does not come within the scope of the government restrictions on conventions. This will be the twentieth annual short course offered and is sponsored by the College of Engineering, University of Oklahoma, assisted by the gas regulatory bodies of the states of Oklahoma, Texas, Kansas and Arkansas, the Oklahoma Utilities Association, the Natural Gas Section of the American Gas Association and the Natural Gasoline Association of America.

Earl Kightlinger is chairman of the general committee. W. H. Woods, Gulf Oil Corporation, Tulsa, will submit a report of the committee for study of practical methods.

A number of papers will be presented.

Foreign Operating Group Now Headed By Snodgrass

Designation of C. Stribling Snodgrass as chairman of the PAW Foreign Operating Committee and vice chairman of the Foreign Petroleum Committee was announced April 12 by Deputy Commissioner Davies.

In assuming these positions, where he succeeds W. D. Crampton, who recently resigned, Snodgrass will take on duties additional to those of his position as director of the PAW Division of Foreign Refining, which he will retain.

Oil Field Materials Prospects Are Brighter Because of Army Cutbacks

A cut-back of 10 percent in the Army's shell program, announced last week, may bring limited relief to the oil industry tubular goods situation, although officials in Washington have not yet estimated its definite effects.

The major competitor for tubing, the stepped-up military demand of the past winter has been one of the big headaches of the WPB officials responsible for the allocation of supplies between military and essential civilian consumers.

To give the oil industry the amount of tubular goods which it was allocated for the current quarter the Army and Navy had to figure their requirements extremely close. Since then, a survey of the steel mills has provided evidence that they would not be able to produce the quantity of material tentatively scheduled for the third and fourth quarters, and there were indications that when WPB and the representatives of claimant agencies got down to the actual figuring of allocations, PAW officials would lay their cards on the table, warning the military that they would either have to shave their shell, rocket and bomb programs or face the possibility of losing mobility through lack of oil.

The cut in shell production, if translated into tubular goods for the oil industry, it was indicated, will go far toward minimizing the cut in supplies which threatened to handicap the PAW drilling program through the remainder of this year.

The big question raised by the cutback announcement, however, was just what it would release in the way of tangible materials. For the most part, the reduction in munitions production is on paper only and is to be accomplished by not construction new facilities programmed last December.

Meanwhile, as WPB and claimant agencies prepared to sit down for initial discussions of third-quarter allocations, it was reported that the inventory of tubular goods in the hands of the industry, undertaken recently by PAW, had turned up somewhat more material than had been anticipated, leading to revival of hopes that the 1945 drilling program may even yet be carried out.

It is understood plans also are being made to eliminate some of the paper discrepancies which have confused the material situation in past months, arising out of the normal tendency of operators to overestimate their requirements so as to have a margin of safety and then, during the quarter, cut back their schedule of needs on the basis of actual experience.

Thus there arises a paper difference between projected and actual requirements which may be eliminated by action to place operators on a month-to-month basis, with PAW reserving a percentage of its allocation to meet late-quarter needs.

A new threat to any expended production of steel was injected into the situation during the week with the disclosure by the conservation and salvage division of the WPB that a serious shortage of iron and steel scrap is leading to apprehension of a recurrence of the situation in 1942, when steel mills had to shut down furnaces for lack of it.

In a letter to the petroleum industry, W. Thomas Hoyt, director of the division, pointed out that it has always been a dependable source of heavy scrap and has responded to every request made by the government, and asked that efforts be intensified to accelerate the preparation and movement of heavy melting scrap to the mills.

Hoyt's appeal was backed up by Allan H. Hand, executive secretary-treasurer of the PIWC, in a letter to members of the council trade, associations, the oil press and the industry generally.

Davies Sees Another Year Of Tight Fuel Rationing

Deputy Administrator Davies on April 10 put a damper on hopes that the promise of former War Mobilization Director James F. Byrnes of VE-Day lifting of heating restrictions on public buildings would be extended to householders.

"The end of hostilities in Europe will not ease the problem of householders who depend on petroleum products for heating or cooking," Davies warned. "More petroleum products of this type will be produced in the next six months than in any comparable period, but the nature of warfare in the Pacific is such that military operations will absorb the entire increase."

Far from being able to increase rations, Davies said, it will be difficult even to maintain the heating oil and kerosine supply at last winter's level. The major threats to the distillate oils are the military requirements for 702 diesel oil to fuel amphibious warfare and submarines, the heavier demand for Navy special oil for the fleet as it expands its operations against the Japanese and the programmed high production of of aviation gasoline by cracking. War Shipping Administration's requirements of diesel oil also are expected to increase.

Davies' warning was given point at the end of the week in a PAW report of a lag in movements of products into the Eastern states as a result of a combination of flood, withdrawal of tankers and slower rail movement. Focusing attention on the slim margin between supply and demand, PAW pointed out that a similar combination of circumstances under less favorable conditions later in the year might create an emergency. Although East Coast receipts were down slightly, the warm weather permitted an increase in heating oil stocks while gasoline was put into inventory in anticipation of increased summer requirements.

War Production Affected Although Management and Labor Not at Odds

Labor difficulties have arisen at two important Gulf Coast war refining plants. A labor strike closed one of the plants last week, and conditions have been at a critical stage at the other for several weeks. Both represent unusual cases, in that there is no dispute between management and labor.

The shutdown plant was Cities Service Oil Company's new 80,000-barrel per day refinery at Lake Charles, Louisiana. Members of the CIO, protesting rentals charged at a nearby housing project, struck when the rents were not reduced. The company has a labor bargaining contract with the AFL, but the CIO has been seeking an election. Some think high rentals are being used by the CIO merely as an excuse in an effort to obtain an election.

The other difficulties involve a larger plant at Houston, and arose when the management was ordered to upgrade negro workers by the Fair Employment Practice Committee. Leaders of the local CIO union say they will not work with the negroes. The FEPC is insisting upon the upgrading, even though advised this may result in shutting down the plant. Thus management is caught in a squeeze.

Shutting down refining plants at this time means more than the loss of vital war products. A balance of supply with Gulf Coast refinery needs has been worked out with great difficulty, and consequently is highly sensitive to changes. Shipping movements and oil well production have been adjusted and interchanged to meet the critical situation. Closing of any plant disrupts the whole picture, influencing operation not only of that particular refinery but of others also, as well as affecting all operations back to the producing well.

The supply of crude for the Cities Service plant was worked out with great difficulty. It would be well nigh impossible, of course, to select a number of producing wells and close them in for the strike's duration. It would be wasteful to continue delivery of crude to the closed plant when it could be used by other refiners. On the other hand, if any temporary adjustment of the production, transportation and refining balance can be worked out so the crude can be delivered to other refineries, it will become necessary to readjust again when the strike ends.

Argentina Is Accorded Equal Commodity Status

The State Department last week instructed the Foreign Economic Administration to accord to Argentina equal treatment with all other countries in the allocation of needed United States commodities.

Marking the acknowledgement of Argentina's adherence to the cause of the United Nation's, the order brings to a close the quarantine period in which, because of her refusal to declare war upon the axis, she was given only such materials as were needed for health or sanitation or to aid in the production of those strategic commodities we needed. Argentina now is to be given her proportionate share of the United States commodities getting as much as Brazil and other Latin-American countries.

The State Department's action comes at a bad time, because second quarter allocations already have been made and FEA officials do not want to disturb them. It is probable that Argentina will be given such goods as can be spared without cutting into allotments for the other countries, and be required to wait for generous supplies until third-quarter allocations are set up.

Huber Carbon Black Plea Postponed Until April 24

A hearing on the application of J. M. Huber Corporation for a carbon black manufacturing permit, originally scheduled Thursday, April 12, was postponed until April 25 by Conservation Commissioner Joseph L. McHugh.

Vance Plauche, attorney for the Huber Company said his client was not ready because War Production Board officials had not arrived. Huber seeks a permit for a plant at the Reddell field in Evangeline Parish to consume 25,000,000 cubic feet of gas per day.

During Thursday's meeting McHugh announced arrangements have been completed between The Texas Company and United Gas Pipe Line Company to turn into United's Lirette-New Orleans pipe line for consumption in the New Orleans area, all the gas now being flowed from The Texas Company wells in the Paradise field, 20 miles west of the city.

Caminita Named Director Of PAW Public Relations

Ludwig Caminita, Jr., of Arlington, Virginia, has been appointed director of public relations for PAW, succeeding Spencer W. Robinson, who resigned to return to his home in Houston.

Caminita is the oldest man, in point of service, in the PAW publicity office, having joined the staff in January, 1942, after a diversified experience in public relations work with private and government agencies. He was appointed assistant director of the office in April, 1944, and since December has served as acting director.

Government Benefits From California Royalty Ruling

The federal government will derive royalties of approximately $1,500,000 from leases on public lands in the Kettleman Hills field in California as a result of the preliminary opinion by Judge Campbell E. Beaumont of the Federal District Court for Southern California, the Interior Department estimates.

The decision was one of a series which has been obtained in suits based on leases granted to the General Petroleum Corporation of California and others seeking to recover royalties for the period from 1931 to 1939.

The decision held that despite the failure to incorporate in the leases a reservation giving the Secretary of the Interior the power to determine the value of oil for royalty purposes, although the reservation was made with respect to natural gas and natural-gas gasoline, the government was entitled to royalties based upon the fair value of oil in line with prices prevailing in similar comparable nearby fields, such as Midway-Sunset, Buena Vista and Elk Hills.

About 4,000,000 barrels of crude oil were involved in the case, the additional royalties on which will amount to about $500,000, department officials said. Another $1,000,000 will be had by the court's ruling that the secretary's powers were reserved in all leases granted and his royalty values on natural gas and natural-gas gasoline were fair and reasonable.

PAW Keeps Hands Off in Drilling Cost Option Drive

PAW officials are not expected to take any active part in the drive to have the intangible drilling cost option written into the Revenue Code, in conformity with long-time governmental policy of non-interference between departments. Involving taxes and revenues, the matter of the option is one within the jurisdiction solely of the Treasury Department and is not one in which PAW, a supply agency, could intervene with propriety.

In event any member of Congress asks PAW for information regarding the effect of a denial of the option, it is probable he would get a reply giving such facts as were available but if the matter becomes the subject of hearings before a congressional committee it is unlikely that PAW will make any representations.

Severance Tax Asked

An oil and gas severance tax bill has been proposed by a committee of the Alabama State Legislature. The tax, which is to take the place of the present state and county ad valorem tax, will be at the rate of 4 percent of the gross value of the oil. If it is passed and approved by the governor the bill will become effective October 1.

Evidence Damaging to Co-ops Given As Fight Against Tax Favors Mounts

Agitation for repeal of the tax concessions given cooperatives continues to mount and members of Congress are receiving considerable information regarding the growing difficulties of business men attempting to compete with such organizations.

The latest charge to be leveled at the co-ops is that they violate the requirement that they shall do business at cost, as nonprofit organizations, it being pointed out in an analysis of the cooperative set-up submitted to Representative Anton J. Johnson of Illinois, that the very fact that they accumulate surpluses demonstrate that a profit is retained.

It was also contended that the co-ops do not return to their patrons overcharges for services performed "in proportion to the use they made of its services," since "the man who spends $100 for lubricating oil contributes far more to the cooperative profit than the man who spends $100 for cattle feed, yet he does not get more refund."

Analysis Prepared

The analysis was prepared for Johnson by Don B. Tolley, a manufacturer in his district, on the basis of the annual report of the Southern States Cooperative showing that on June 30, last, it had a total capital stock of $3,670,760 and total capital reserves (surplus) of $3,244,473.

"This is the concern which insists that no matter who pays for the war, it will not," Tolley declared. "It did a total business of $57,850,787 last year. It did not pay any federal income tax and has not paid any even though its surplus totals over $3,000,000. In 1944, our company incurred an income tax of $875,000 and was allowed to transfer only $221,024 to surplus."

Tolley contended that there is little actual difference between a cooperative and any other form of business organization, and warned that the continued expansion of the co-ops holds serious danger for the independent business man.

"Cooperatives have unlimited ambition," he wrote Johnson. "They intend to do an ever-increasing share of the nation's business. They are, I believe, financed by federal funds when first organized. If successful, such loans may be repaid in full. Thus, we, the taxpayers, finance an organization whose ultimate victory means our collapse.

"Following affairs to a logical conclusion, the so-called 'private' corporation will have the choice of reorganizing so that it too can escape federal taxes, or laboring under steadily heavier handicap.

"There is one fundamental fault in present income-tax laws which tax only profits," Tolley said. "The concern which fails to make profit escapes, yet has all the rights, privileges, and protection afforded by the government to whose support we contribute heavily. By claiming to make no profit, the cooperative and the unsuccessful private firm both avoid taxes. This fundamentally unsound, illogical plan or method of taxation which penalizes hard work and superior ability must be abandoned. All who benefit from the expenditures of government must share in its support. The only equitable tax is one based upon a certain percentage of net sales. Food and fuel should carry a rate just one half that applied to all other commodities, and there should be no exemptions. The sooner federal taxes are recognized as a definite part of the cost of doing business, yes, of even existing here, the sooner we will get out of the present morass of complicity and confusion."

The House Small Business Committee headed by Representative Wright Patman of Texas last week prepared a chart showing the tax exemption privileges enjoyed by cooperatives, which has been distributed to members of Congress as background in analyzing arguments on the subject.

Ark-La-Tex Chapter of API Names Dowd Head

B. J. Dowd of Union Producing Company of Shreveport, Louisiana, was elected chairman of the Ark-La-Tex chapter of American Petroleum Institute for 1945-46, at the spring meeting April 9. Dowd succeeds Charles E. Mangold.

Also elected were Robert A. Seale, Globe Supply Company, Shreveport, first vice chairman; H. R. Bean, McAlester Fuel Oil Company, Magnolia, Arkansas, second vice chairman; J. T. Cook, The Carter Oil Company, Shreveport, secretary-treasurer.

On the advisory committee are W. L. Stanton, Arkansas Louisiana Gas Company of Shreveport and Mickey Maguire, Cotton Valley Operator's Committee, Cotton Valley, for two-year terms; and H. C. Anderson, Texarkla Oil Corporation, Shreveport, and R. O. Farley, Ohio Oil Company, Shreveport, one-year terms.

Sun Oil Company Sells Its Old Ocean Field Holdings

Sun Oil Company has sold its producing properties in the Old Ocean field, Brazoria County, Texas Gulf Coast, to Magnolia Petroleum Company and J. S. Abercrombie Company for $5,000,000 in cash. The properties consist of 500.78 acres and 10 wells.

The transaction was a joint purchase by Magnolia and Abercrombie, each acquiring an undivided one-half interest.

Government Plants Sale As An Aid to Free Enterprise

Government plants and facilities which are to be disposed of after the war, particularly those in new industries such as synthetic rubber, may be kept off the market for years while their value in terms of production and employment is being developed, if suggestions made by the Department of Justice are adopted.

The department's views were made known by Assistant Attorney General Wendell Berge, chief of the antitrust division, who is required to approve all major plant dispositions as not contributing to monopoly in violation of the antitrust laws.

Asserting that the policies adopted for reconversion may determine whether monopolistic trends of the past shall continue, Berge pointed out that the government will have some $16,000,000,000 worth of plants and equipment, now used in war production, to dispose of and insisted it must be done in such a way as to encourage independent enterprise and employment.

Berge proposed that, since it will be impossible in many cases to determine immediately the proper value of these plants and facilities, they might be leased to private enterprise for an experimental period which would provide a record of the property under private enterprise as a guide for the determination of its sales value.

During the experimental period, he pointed out, the government would collect rent, and new private enterprises would have the opportunity to put the plants to their most effective use without the necessity of laying down a capital investment based to a large extent upon pure guess.

Tanker Deliveries

Delivery of 20 tankers, two of them naval vessels and 18 of the T-2 and T-3 type, during March has been reported by the Maritime Commission.

Five of the T-2 ships were delivered by Sun Shipbuilding and Dry Dock Company, Chester Pennsylvania, and an equal number by Kaiser Company, Inc., Swan Island, Oregon. Marineship Corporation, Sausalita, California, delivered one naval and four T-2 tankers, and Alabama Dry Dock and Shipbuilding Company, Mobile, delivered three T-2 ships, Bethlehem Sparrows Point Shipyard, Sparrows Point, Maryland, one T-3, and East Coast Shipyards, Inc., Bayonne, New Jersey, one naval coastal tanker.

Holland Retires

Retirement of George W. Holland, since last June special field assistant to Deputy Administrator Davies detailed to California, was announced by Administrator Ickes April 10. Ill health through the last few years caused him to decide to retire.

Both Ickes and Davies expressed their regret at losing Holland.

Texas Gas Group Opposes Extension of Federal Power; to Appear Before FPC

Study of the activities of the Federal Power Commission in its move to take over the control of the oil and gas industry within the various states began in Austin last week when a committee of industry representatives named by Governor Coke Stevenson met. It was agreed to recommend to the governor that both the state and industry appear when the FPC hearings are called.

The governor asked the committee to determine (1) whether Texas and its natural gas industry should appear at the investigation; (2) if it was to appear, through and by what means such appearance should be made and prosecuted; and (3) what policies and propositions of law and of fact of a noncontroversial nature can be submitted to and contended for in behalf of the state and its natural gas industry.

Committeemen agreed the FPC was undoubtedly moving to attempt the control of gas production. Several believed such a program was being urged by representatives of labor unions, the coal industry and railroads, all seeking to prevent development of gas lines to areas where gas will compete with the inferior fuel.

Control Oil Too?

Because most gas is produced in conjunction with oil, the group felt the next logical move would be to control oil production if FPC is successful in its first effort. Only a part of the Panhandle and the Monroe, Louisiana, fields produce gas exclusively, according to N. C. McGowen, president of Union Producing Company.

Committee members pointed out that FPC had the authority to hold hearings and make recommendations to Congress and that even if the authority for these particular hearings was challenged successfully, Congress could create a committee with such authority. So it was decided that the jurisdictional question should not be raised.

Last fall many companies and several associations decided to ignore the meetings on the theory that FPC had no right to make such investigations and that appearance would concede the commission's jurisdiction. Subsequently, most of these same associations have become convinced that if they fail to appear, Congress might consider this an admission that they had no defense and, therefore, industry would lose its case by default.

As a result, Texas Mid-Continent Oil & Gas Association, Independent Natural Gas Association of America, and other groups have already begun to assemble technical and legal staffs in preparation for the hearings. Such data and legal studies will be available for state regulatory bodies and industry groups.

The committee at Austin agreed that both the state and industry should appear and make a full and complete record to show Congress clearly that there is a good case against the FPC charges. Plans will be made to appear before Congress if a bill is introduced seeking to extend FPC powers, to be sure that Congress has all evidence needed upon which to base new laws.

Concern was expressed concerning the recent United States Supreme Court's decision in the Panhandle Eastern Pipe Line Company, Canadian River Gas Company and Colorado Interstate Company cases, wherein the court ruled that FPC had the right to fix the price of gas at the well. As Maston Nixon, president of the Texas Mid-Continent Oil and Gas Commission, pointed out, FPC in fixing rates began with the price to the consumer and worked back toward the well. The remainder, in this case 2¼ cents, was the price which the producer would get for his gas.

Mr. Justice Douglas stated in the opinion that the commission has no control over the drilling and spacing of wells and the like. It was this decision, too, which emphasized the probability that FPC might control the price of crude oil and certainly control its production.

Marshall Newcomb, attorney for Lone Star Gas Company, contended that if FPC has the authority to fix prices at the well, then it obviously has the authority to control production, since it could restrict the price to a point that would make production of certain gas unprofitable and, therefore, some wells would be closed in while others with a better price for their gas might be operating.

The consensus of the committee was that unless some restrictive measures result, there may be virtually no limit to which FPC authority might be extended.

Only on the question of its appearance at the hearing would the group agree. Several sought an understanding of the attitude in other states, especially in the Southwest which produces 75 percent of the gas. Railroad Commission Chairman Olin Culberson, chairman of the committee will immediately consult other regulatory bodies for their views.

Legislative Resolution

Expression of Texas' policy on natural gas, if sought in form of a resolution from the legislature would state that Texas is opposed to the encroachment of federal authority over matters that are the business of the state alone, and especially regarding control of the production of oil and gas and its conservation.

Some committeemen feared that such a legislative declaration might conflict with the views of other states and that these differences of opinion might be used by the FPC as evidence that since the states themselves could not agree, then the federal government must step in. Action on this was delayed until the next meeting which will be held before May 1.

The Legislature will adjourn on May 9 or shortly thereafter. Texas sentiment is fairly well crystallized against the intrusion of federal authority, and it is believed that such a resolution might be passed quickly.

Chairman Culberson said the Railroad Commission was still in doubt about its exact procedure. Under the Connally hot oil act, the sale of oil and gas produced legally under state laws was guaranteed. He thought, perhaps, that this guarantee would be sufficient if it were maintained. Other committeemen feared control of prices and control of the "use" of gas, and felt that a positive attack on this proposal should be made.

Some members of the committee favored more representation from the oil industry as they believe that this is a fight on oil as well as gas.

Every member of the committee spoke freely and the reluctance to speak for his company, so common to many representatives at committee meetings, was absent entirely. Constructive results may be obtained with the leadership represented.

Meanwhile, the governor of Louisiana has appointed a similar committee which

Crude Oil Production in the United States

(Estimates compiled by The OIL WEEKLY. All figures indicate daily averages, in barrels.)

STATE OR DISTRICT	PRODUCTION IN WEEK ENDED April 14	April 7
Alabama	250	250
Arkansas	80,500	80,600
California	906,500	903,750
Colorado	9,550	9,550
Florida	15	15
Illinois	187,600	199,300
Indiana	12,100	10,100
Kansas	268,150	255,450
Kentucky	16,450	16,750
Louisiana	366,050	366,100
North Louisiana	71,050	70,500
South Louisiana	295,000	295,600
Michigan	47,050	47,000
Mississippi	52,200	51,450
Missouri	100	100
Montana	20,340	24,550
Nebraska	950	1,000
New Mexico	105,650	104,750
New York	12,750	14,200
Ohio	5,950	6,800
Oklahoma	378,300	374,550
Pennsylvania	36,150	38,600
Tennessee	35	35
Texas	2,170,500	2,159,050
Upper Gulf Coast	565,200	564,500
East Texas Field	378,100	381,000
Rest of Eastern Texas	145,500	146,750
Lower Gulf Coast	249,750	249,700
Southwest Texas	81,400	81,400
South Central Texas	21,000	21,000
West Texas	489,550	477,350
North Texas	150,050	149,300
Panhandle	89,950	88,050
West Virginia	8,300	8,800
Wyoming	105,700	105,900
Total United States	4,791,140	4,778,650

BUREAU OF MINES REPORT

Total stocks, foreign and domestic, April 7, as reported by the Bureau of Mines were: 222,871,000 barrels with a daily average production of 4,784,000; and runs to stills 4,686,000.

may differ radically with the view of the group represented by former Governor Sam Jones. It is likely that coordinated efforts of the representatives of all the gas-producing states will result in a formidable defense when hearings begin.

Little Likelihood of Gas Measure Passage in Texas

Committees of both houses of the Texas Legislature last week approved natural gas conservation bills, radically revised from the original "agreed" measure. This served only to further confuse the question, as the approved bills did not satisfy the views of either legislators or representatives of the oil and gas industry. Although originally identical, the revisions resulted in different bills for the House and Senate.

Despite committee approval, there seemed little prospect of a gas conservation bill passing this session of the legislature. Enthusiastic support was lacking, the bills apparently being voted out by both committees merely as a means of disposing of them. Because of their high number on a crowded calendar, the bills are unlikely to come up for consideration this session, which is nearing end.

It appeared the bills would be amended materially should they reach the floor of either house. This prospect was indicated by the wide disagreement over different provisions, as evidenced by the many changes suggested by both committees, and also by opposition at the hearings from representatives of the oil and gas industry.

In the Senate committee, Franklin Spears, author of the bill, showed little enthusiasm. It was finally approved on the motion of Senator Mauritz, who declared he was against the measure, but thought it should be passed out of the committee in order to dispose of it. All 11 members of this committee present at the hearing were very apathetic.

Many factions among the industry representatives appeared at the House hearing. The attack was carried largely by Superior Oil Company, Houston Oil Company, and J. S. Abercrombie, whose attorneys condemned the bill in every respect. They used the same arguments that had been presented a week earlier to the Senate committee (THE OIL WEEKLY, April 9). House committee members showed such little interest that they asked only a very few questions.

No Texas Gas Tax Increase

Prospects of any increase in the Texas gas tax dwindled last week when the House Revenue and Taxation Committee voted 11 to 6 to delay action on any tax bills until April 18, three weeks before the end of the session. Because the comptroller predicted income of $92,094,957 to the general revenue fund for the next biennium (as compared with current income of $75,000,000) the committee thought no tax increase was justified.

Remedial Measures for Flared Gas Problem Discussed by Committee

Plans for making a detailed study of flare gas in Texas and means of reducing it were made by an industry committee meeting in Austin April 13 at invitation of the Texas Railroad Commission. Present were representatives of 30 companies, including executives of several major producers. The commission had named this committee in December, together with an engineering committee which is to make the actual survey. Object of the program was to have industry put its own house in order.

Preliminary surveys by the engineering committee headed by W. J. Murray, Jr., have been made, and are ready for submission to the advisory committee which met for the first time. James P. Nash of Austin was named chairman after George Sawtelle of Houston resigned because of inability to put in enough time on the job. Nash named a subcommittee of the advisory group to act as a steering committee for the engineers, to determine policy. This included E. P. Hayes, H. B. Fuqua, D. V. Carter, W. B. Jayred, and Sam Grinsfelder. Murray explained that the preliminary survey disclosed that 60 percent of the flared gas comes from 52 fields. He recommended that studies of these be made first.

It appeared that the plan of action would be as follows: The engineers will make studies, then remedial recommendations to the advisory committee. This group will then determine whether they are feasible and make recommendations to the Railroad Commission. However, it may merely suggest that the commission call hearings on particular fields, requiring each operator to appear and present his data.

The advisory committee adopted a resolution offered by Hines H. Baker, Humble Oil & Refining Company instructing the engineering committee to make a survey of the gas produced in all fields producing more than 1000 barrels of oil or a million cubic feet of gas daily, to employ a staff to do the mechanical work of assembling the statistics, to analyze the information and report on the total gas produced from each field, the amount used and the amount flared, then list the fields in brackets based on the amount of gas flared, the volumes of casinghead gas available, and a general report outlining recommended practices for all fields.

Members of the group recognized that they might be preparing to penalize their own companies, but seemed to feel that if a real effort was to be made to conserve the gas, this move would be necessary.

Murray told the committee that the engineers were ready to go ahead, but wanted assurance that management really wanted the job done. Without that assurance, time and effort would be wasted which could be ill afforded now. Since all members of the advisory subcommittee except one live in Houston, it was expected that this group will meet there with the engineers this week to plan details of the operation.

Texas Enforcement Work Stymied by Low Salaries

Unless salary raises requested by the Texas Railroad Commission for the next two years are approved by the legislature, there is no prospect of improvement in its enforcement program.

Current salary scales are too low to permit the commission to compete with private industry for first-class help, despite the fact that the oil industry pays a special tax for commission support of which nearly a million dollars a year is not used because the legislature has in the past refused to appropriate the money for this purpose.

To Sell Gas System

Fort Stockton Gas Company and the Big Bend Pipe Line Company have contracted to sell their natural gas system, involving 22 miles of transmission line and distribution system in Fort Stockton, Texas, to the City of Fort Stockton for $250,000. The line delivers gas from the Pecos Valley field, Pecos County, and has been in service since 1931.

Additional Wells for Multi-Zoned Oil Areas

Further evidence of the PAW policy to allow additional drilling to increase productive capacity of multi-zone fields was shown last week when the District III office issued an amendment to PAO 11 authorizing additional drilling in the Seeligson field.

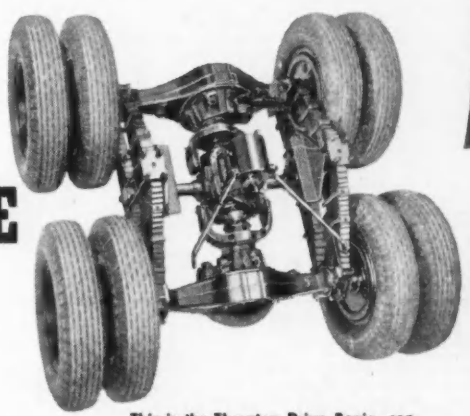
The new ruling allows drilling of 2 wells on each 40-acre unit instead of only one, provided that the additional well is completed in a different sand or sands than the first well. Both may be dual-completions if the operator desires, but completion must be in different horizons than those producing in the other well on the unit.

The new authorization will allow development of additional production from such a field without changing the acreage spacing pattern for individual sands.

"Geophysics In War"

"Geophysics in War," by C. A. Heiland, Volume 37, Number 1 of the *Quarterly* of Colorado School of Mines, published January, 1942, is available for distribution again, after having been withheld from circulation since early in the war, at the request of the Office of Censorship. It may be obtained from the Department of Publications, Colorado School of Mines, Golden, Colorado, at $1 per copy.

TRACTION off the Highway!



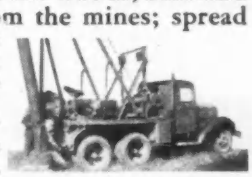
This is the Thornton Drive Bogie, consisting of 2 driving axles; 2-speed gear case assembly with *Automatic-Locking* Differential in ring gear, "walking beam" type springs; wheels; 8 new tires.

THORNTON gives positive DRIVE TO BOTH REAR AXLES *Without Axle Fight*

Trucks operating off the highway must have 2 rear driving axles with *positive drive* to provide maximum traction.

The THORNTON *4-Rear-Wheel* DRIVE has proved, through years of grueling work and severe war demands, that it does deliver "go ahead" traction under the most obstinate conditions (and provides 100% more payload; up to 50% gradability; and, certain definite operation economies).

Whether you haul logs from the woods; sand and gravel from the pits; coal from the mines; spread lime over soft fields; or haul heavy oil field equipment; you need the maximum traction provided by the Thornton Drive. Thornton equipped trucks have the power and traction to operate in all kinds of weather, over all kinds of roads. They will work many more days per year than a conventional truck having only one driving axle.



However, *positive drive* to the rear driving axles is not all that is required to give you the greatest number of truck-work days per year. The Drive also must have *Differential Action* to avoid "axle fight" which causes tires to scuff, wastes fuel, and destroys ring gears, pinions, joints, etc.

The heart of the THORNTON DRIVE is the THORNTON *automatic-locking* DIFFERENTIAL—an exclusive feature which provides both POSITIVE DRIVE and DIFFERENTIAL ACTION.

Thornton's solution to the problem of obtaining "off the highway traction" without having "axle fight" represents one of the outstanding contributions to the automotive industry during the past 30 years. This *automatic-locking* DIFFERENTIAL, as an integral part of the Thornton Drive, enables the truck to drive as long as there is traction on the wheels of either axle. Its automatic Differential action permits an over or under running of the ring gear of either axle as required by the contour of the road bed, whether moving forward or in reverse.

When the THORNTON DIFFERENTIAL is also used in place of the conventional differential in each driving axle, the ultimate in traction is provided, because *all wheels must rotate* when power is applied.

FREE: *Mail coupon for descriptive folders and full details about the Thornton Four-Rear-Wheel Drive.*

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Please send me catalog of facts on changing my 1½-2 ton truck into a heavy duty truck.

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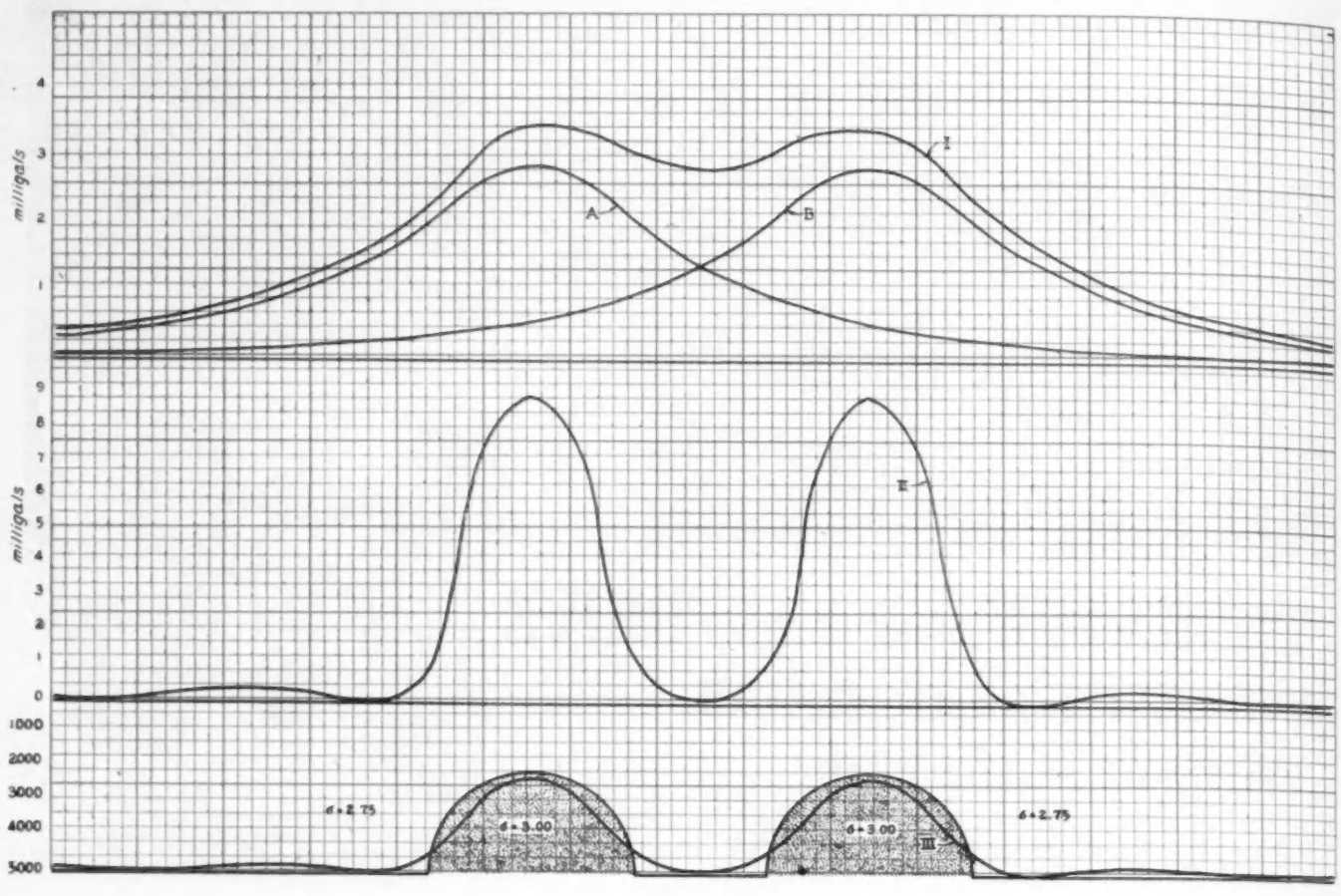


FIGURE 1
Solution of gravity anomaly corresponding to an assumed mass distribution

Quantity Interpretation of Gravity Meter Surveys

By SYLVAIN J. PIRSON
Head, Department of Petroleum and Natural Gas,
The Pennsylvania State College, State College, Pennsylvania

THE gravity meter may be defined as an instrument which takes out-of focus photographs of geologic structures. The gravity survey pictures may be likened to those obtained of a distant landscape by an improperly adjusted camera or to the visual impressions perceived by a nearsighted person looking at a distant object.

The present status of gravimetric interpretation technique seems to have done little in order to sharpen the gravity picture so that it will appear in its true relief. Quite often the interpretation technique consists merely in the removal of regional gradients through empirical if not fanciful methods. Following this, the use of the gravity map is also commonly empirical and leases are taken and wells drilled on noses and other seemingly anomalous regions because production of oil and gas occurred in the vicinity under similar conditions. Many an operator has discovered to his grief that a gravity nose in the contoured map does not necessarily mean the presence of structural closure, let alone the presence of a commercial oil and gas field. As a matter of experience it is known that if a closed structure is present it is often shifted horizontally away from the gravity meter high and more particularly if the regional gravity gradient is large. In some cases a structural low or syncline may be found immediately below a gravity high as may be the case where several closely spaced salt domes are present, a notorious case of which is the gravity high located in the center of the area marked by the following salt domes and structures on the Texas Gulf Coast: Mykawa, Manuel, Hastings, Genoa and Friendswood. It is reported that the region of Pearland, in the center of the area, is a gravity high located

over a well known synclinal trough.

This paper is concerned with an interpretation procedure known for some time but which apparently has found little favor thus far in gravimetric circles. In an article entitled "The place of the vertical gradient in gravitational interpretation," (*Geophysics*, Vol. I, No. 1, Jan., 1936, pp. 127-136) H. M. Evjen already pointed out many of the limitations and shortcomings of gravitational surveys which the writer has presently reviewed. The interpretation theory and method outlined by Evjen permit to remedy many of these shortcomings and to, so to speak, bring the geologic structure into "gravitational focus" and thereby sharpen the relief of the map and increase the perception acuity of the instrument. Where the effect measured is the combined gravitational anomaly of several neighboring structures, as in the salt dome area here above mentioned, the method permits an increased resolution or separation of the anomaly producing structures into distinct units.

"Adding Telescopic Lens"

The method is one by which the gravity anomalies are calculated so as to correspond to phantom gravity meter readings as if they had been taken on a horizontal plane close to the anomaly producing structure. Using again our optical analogy, the method is equivalent to adding a telescoping lens to our "gravimetric camera" or to approaching the observed object closer to the eye of the nearsighted person.

Carrying the photographic analogy still further, one may say that the method of "gravitational focussing" will yield a picture showing greater "contrast" and better "definition" of the corresponding geologic structure. This improved quality of the gravity picture is due to the fact that dips appear in their true light both regional and local. Accordingly the decision between "steep dip" and "fault" is more immediately apparent on the focussed picture whereas arriving at the correct interpretation of steep dip versus faulted structure from the outlook of the contoured surface gravity data alone is often a matter of judicious guessing.

Theory of Interpretation

The theory of the interpretation as presented by Evjen will be reviewed summarily. Essentially it is a mathematical process which consists in calculating the gravity anomalies at a depth assumed spatially close to the surface of separation between the geologic formations of different densities and which, presumably, produces the gravitational anomaly. It is known that "the gravity picture very near this surface becomes identical with the surface density distribution aside from a constant factor" (i.e., the gravitational constant $\gamma = 66.67 \times 10^{-9}$ cgs units times 2π). A further assumption has to be made concerning the value of the density contrast. If the formations producing the anomaly have been determined, the density contrast may be known with a high degree of accuracy by measuring the specific gravity of samples or cores from the respective formations. By way of example, if the anomaly producing feature is a shallow salt dome overlain by an anhydrite cap rock and intruded through sands and shales, the density contrast close to the cap rock will be of the order of .5 to .6. In the case of a shale-limestone contact, the density contrast could be of the order of .3 to .4 at shallow depth, whereas it might be reduced to .1 to .2 at great depths as a result of shale compaction. A common figure for the density contrast between sediments and basement rock may be taken as .5.

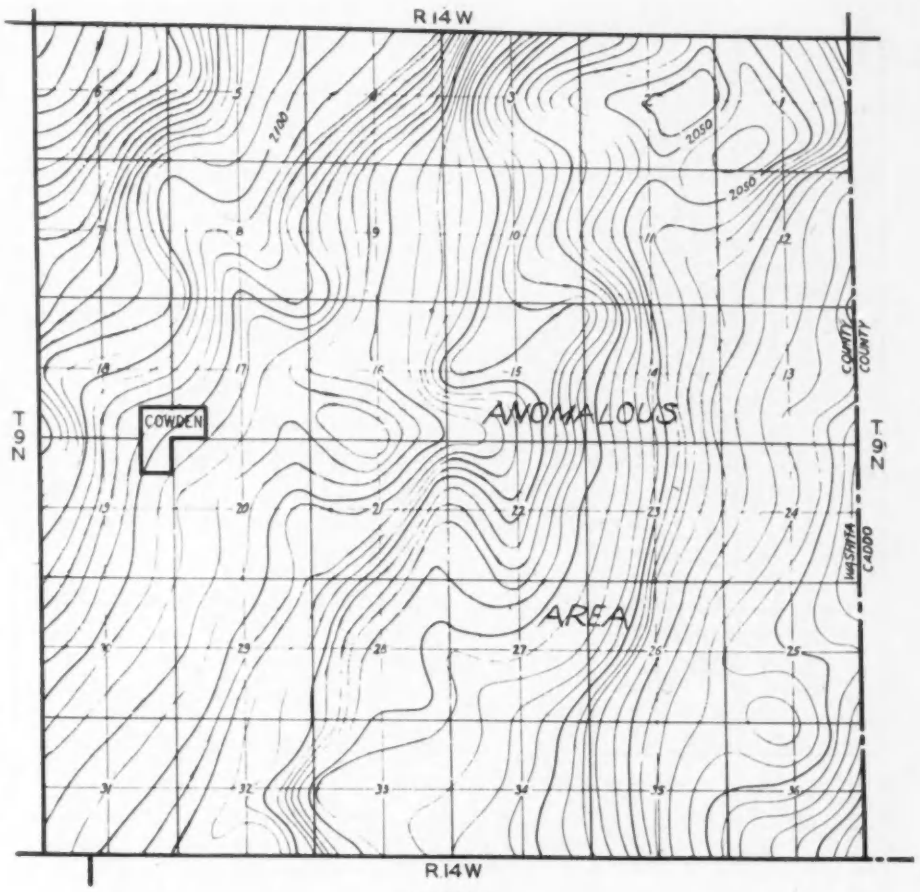


FIGURE 2

An area where gravity anomalies appear as nosings superimposed on a strong regional gravity gradient. Gravitational surveys reveal pertinent information concerning regional dip and strike. Contour interval 0.2 miligal. Washita County, Oklahoma.

Checking Interpretation

As a means of checking the theory and interpretation procedure, a hypothetical structure made of two horizontal, parallel and infinite half cylinders protruding from the basement rock, as shown in Figure 1, was submitted to the general mathematical routine. The cylinders have a radius of 3000 feet, their centers are 10,000 feet apart and they are assumed to be buried at a depth of 5000 feet measured from the surface down to their axes. The top of the two structures are, therefore, 2000 feet below the surface. A density contrast of .25 was assumed and the surface anomaly curve I was calculated by means of well known formulae. After calculation of the vertical gradients of gravity and subsequent extrapolation to 5000 feet in depth, anomaly curve II was obtained. Although the various approximations used in the calculation of the actual basement relief are not justified in the case of a sharp relief of this type, the structural points were nevertheless calculated and curve III was thereby obtained. A comparison of curve III and the actual basement relief gives a qualitative as well as a quantitative means of evaluating this method of gravimetric interpretation.

It is seen that the basement structure which might originally have been construed as due to one long buried single structure with perhaps a slight trough in the center is actually composed of two elongated such features separated by a synclinal trough. The apex of each structure is accurately located and a fair indication of the width of each feature is indicated although one may note a slight asymmetry as well as a slight shift away from the synclinal trough. The structural closure obtained by the interpretation procedure is about 7 percent smaller than actual. As already mentioned above this is due to the fact that certain simplifying assumptions normally used in the regular routine are not justified in this case where the relief involved is of the same order of magnitude or larger than the depth of burial of the geologic feature. In any case it indicates that the error in determining the amount of closure should not exceed 10 percent in the case of sharp relief and that it may be considerably less for low relief structures.

Interpretation of an Actual Survey

As a further illustration of the potentialities of the method, the interpretation was carried out of an actual survey in Twp. 9 n, 14 w., Washita County, Oklahoma, published in a pamphlet issued by C. H. Frost Gravimetric Sur-

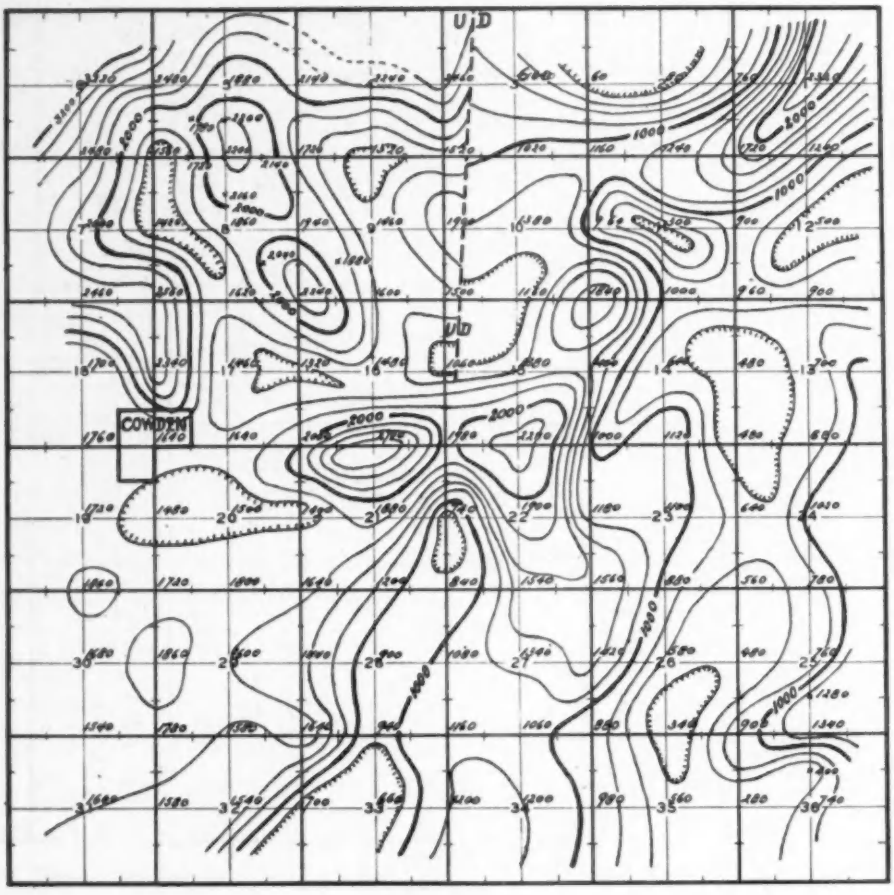


FIGURE 3

Gravitymeter map, showing basement relief in Twp. 9n, 14w, Washita County, Oklahoma. (Interpretation by Sylvain Pirson.) Assumed density contrast: 0.4 feet. Contour interval: 200 feet.

veys of Tulsa. The surface gravity distribution is reproduced in Figure 2 and the results of the interpretation by the method of "gravitational focussing" are shown in Figure 3 as a basement relief map. The writer had absolutely no subsurface geologic information in the compilation of this map and the results were obtained through the following rank assumptions; the anomaly is produced by the basement-sedimentary contact having a density contrast of .4 and the basement is deeper than, but close to, the depth of one mile. As one might expect, the interpreted map, Figure 3, shows trends similar to those of the surface picture in Figure 2. However, whereas Figure 2 shows only three very moderate closures, Figure 3 indicates six definite closed structures with important closure. If the same amount of relief may be assumed to be present in the overlying sedimentary beds, these structures might contain oil and gas in commercial quantities. Two of the closures shown in the surface gravity map, Figure 2, one in Section 1 and the other in Section 36, have now become opened structures in Figure 3. This is due to the lack of further data outside the township but they no doubt close to the east since the regional dip is in that direction, thus making a total of eight promising structures. Most of he so-called "noses" in the surface gravity map have now become closed structures for which the present interpretation technique furnishes a fair estimate of the amount of reverse dip, an estimate admittedly impossible from a mere inspection of the surface gravity anomalies.

Figure 3 reveals further the following geologic features, again not apparent on the surface gravity map: a, Three anticlinal axes converge to the exact center of the township and most of the closures are distributed along said axes. b, Two main synclinal troughs are apparent, one striking north from Section 35 to Section 12, the other striking also north from Section 33 to the center of the township where it passes over the converging point of the anticlinal axis and continues thereafter into Sections 15, 10 and 3 in the form of a scissor fault.

Effect In Enlarged Area

It is quite apparent that the mathematical treatment has disentangled the blurred picture furnished by the surface gravity survey which actually consisted of the merged gravity effects of a number of neighboring subsurface mass anomalies. This blurred or "out of focus" results from the well known fact that the gravity anomaly produced by a buried geologic feature exerts its effect at the surface of the earth over an area several times as extensive as the areal extent of the geologic feature. This is very apparent in Figure 1 where the gravitational anomalies of each of the cylinders are plotted separately as curves A and B which overlap each other considerably and add their effect to give the entangled anomaly curve I. The mathematical treatment successfully disentangled this situation and yielded curve II and the corresponding basement profile, curve III. In the absence of well log verification, which the writer was unable to obtain, it is justified to assume that Figure 3 gives a good picture of the subsurface mass distribution in the area investigated, provided no anomalous density contrast exists within the basement rock.

How Well Logs Help

Had well logs been available, it would have been possible to determine the probable and approximate depth of the gravity contrast producing the gravitational anomaly, the focussing of the surface picture could have been done to a level close to this depth and the gravity contrast could have been so chosen as to check the various known well elevations of the gravity marker. Such an adjustment of an independent variable is not unusual in geophysical prospecting and presently it corresponds to velocity corrections often resorted to in reflection seismic work in areas of large velocity variations. An areal map of the density contrast distribution may accordingly be resorted to in order to check in at the various wells and thereby obtain a more reliable and accurate structural map of the density contrast surface.

Sources of Errors and Limitations

Any interpretation of geophysical data is subject to a certain number of limitations which it is well to realize in order that they may be either corrected for quantitatively or the anomalies discounted qualitatively if information on the sources of errors is not available.

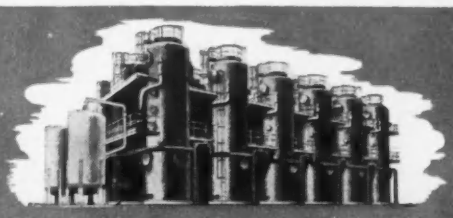
In the first place systematic and random errors may be introduced in the original survey through the application of the various required corrections. The elevation or free air correction necessitates an accurate knowledge of surface elevation, say to .1 foot. This offers no special difficulties beyond ordinary care but it is well to bear in mind that this error corresponds to .01 milligal which by no means is a negligible quantity when one tries to give it significance at a depth of one mile or more. The Bouquer correction or that due to the attraction of surface formations is a function of the density of these formations. It is well known that this density is not constant for any great distance and that in certain cases abrupt variations are encountered. Dr. F. M. Swain reports some particularly interesting cases in the East Texas basin where the hematite bearing Reklaw and Weches formations outcrop and leave erosion outlier islands beyond the outcrops. Hematite having a density of 4.5 to 4.9 when present to the extent of 30 to 40 percent in the near surface beds and soils will change their density appreciably. Several gravitational highs reported in the East Texas basin have been interpreted as due to this effect.

Further errors may be introduced by the fact that topographic corrections are generally not applied in the present day practice of gravimetric surveying. This type of correction is of greater importance in areas of sharp topographic relief.

Other systematic errors are due to instrumental drift and tidal effects.

In all it is expected that gravity meter readings are at best good to $\pm .1$

■ CONTINUED ON PAGE 42



UNION CARBIDE *AGAIN* REPORTS

on the production of

BUTADIENE

for the Government's Synthetic Rubber Program

ONE OF THE MOST IMPORTANT factors in the Government's rubber program is the production of GR-S type synthetic rubber. The basic chemical in this rubber is Butadiene, which can be made from alcohol or hydrocarbon materials.

The Government's original plan provided that about one third of the required Butadiene would be made by CARBIDE AND CARBON CHEMICALS CORPORATION'S alcohol process.

In 1943, their first year of operation, however, the plants using this process produced over 75 per cent of all Butadiene made for GR-S type synthetic rubber.

In 1944, the second year, these plants produced about 64 per cent of all Butadiene necessary for military and essential civilian rubber. This was true despite the fact that good progress had been made in the production of Butadiene by other processes.

THE RECORD

The first tank-car load of Butadiene was shipped from the Government's Carbide-built, Carbide-operated plant at Institute, West Virginia a little over two years ago.

This was just five months after the famous Baruch Committee Report pointed out this nation's desperate need for rubber—and approved Carbide's butadiene alcohol process, originally selected by Rubber Reserve Company, as one of the solutions.

In its first year the Institute plant, with a rated capacity of 80,000 tons per year, produced enough Butadiene for more than 90,000 long tons of synthetic rubber.

Two more great plants using Carbide's alcohol process—and built from the blueprints of the Institute plant—are in full production. One of these, with an annual rated capacity of 80,000 tons of Butadiene is located at Kobuta, Pennsylvania and is operated for the Government by another important chemical company.

The second, with a rated capacity of 60,000 tons a year, is operated for the Government by Carbide at Louisville, Kentucky—making the total rated capacity of the two huge plants now operated by Carbide 140,000 tons a year.

In 1944, the production of Butadiene from the three plants using the alcohol process totaled 361,000 tons—representing operation at over 164 per cent of rated capacity. An even higher rate is expected in 1945.

* * * * *

Before Pearl Harbor, the United States was a "have not" nation with respect to rubber. Now, thanks to American research, engineering and production skill, our country can take its place as a dominant factor among the great rubber producing nations of the world.

▼

Business men, technicians, teachers, and others are invited to send for the book **RU-4** *"Butadiene and Styrene for Buna S Synthetic Rubber from Grain Alcohol," which explains what these plants do, and what their place is in the Government's rubber program.*

SEPTEMBER 10, 1942

"Of all the critical and strategic materials, rubber is the one which presents the greatest threat to the safety of our nation, and to the Allied Cause . . . We find the situation to be so dangerous that unless corrective measures are taken immediately the country will face both a military and a civilian collapse."

—Report of the Rubber Survey Committee (Baruch Committee).

AUGUST 31, 1944

"Undoubtedly the outstanding achievement of your company has been the development of your process for the production of Butadiene from alcohol. With a rather meager background of experimental work, your engineers were able to design and construct commercial units for the production of Butadiene. In an exceedingly short time, the operation of this equipment at capacities up to 200 per cent of rating has been largely responsible for our present safe situation with respect to rubber supplies . . ."

—Letter from Rubber Director Bradley Dewey to CARBIDE AND CARBON CHEMICALS CORPORATION

The material herein has been reviewed and passed by the Rubber Reserve Company, the Defense Plant Corporation, and the War Department.

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INDUSTRIAL GASES AND CARBIDE—The Linde Air Products Company, The Oxweld Railroad Service Company, The Prest-O-Lite Company, Inc.

Oil wells cannot always be drilled beside paved roads. Consequently trucks and passenger cars must endure rough and muddy roads. Occassionally they must be pulled through bad places by tractors.

Carter Company Beats Transportation Problem

Constant Care Keeps 'Em Rolling

THE responsibility for keeping 462 passenger cars, pickups, trucks and tractors ready for instant service in meeting the transportation needs of The Carter Oil Company is a big job. Under the direction of J. R. Freeman, department head, maintenance of automotive equipment, which includes a fleet of cars in each of the division headquarters, is a service carried on by the material and traffic department, acting as a uniting link for the entire organization.

Passenger cars maintained in Tulsa total 10, and the remaining 452 units are allocated in the 21 states in which The Carter Company operates.

Buying Problem Difficult

At the beginning of the war most of the equipment in The Carter service was of later models in tip-top condition. As an essential industry the company has been able to buy a certain number of new passenger automobiles over the past three years, but most of these were used in replacement of old turned in, concerning boots in tires, any repairs needed, etc., proves of great assistance to the checker.

vehicles and a few were additions to meet expansion. Nevertheless, the buying problem has been very difficult, according to Freeman, and has nearly reached the stage where it is impossible to buy new cars. The company is now finding it necessary to buy good used transportation instead.

In conformity with wartime restrictions on the use of cars for travel, and in order to obtain the maximum benefits of those available, considerable discretion is exercised in the dispatch of company vehicles.

Labor Problem

In Tulsa the use of a car is obtained through the material and traffic department. Jess Sterling, representing the department, checks each car as it is turned in after use, and makes regular weekly inspections of the fleet. As the automobile is turned in after use, it is given a road test and thoroughly checked. After any repairs are made, the car is given a final road test to see that it is again ready for use. Information given by the driver as the car is

In the divisions, a fleet of cars and trucks is on call at each division headquarters, under the direct supervision of the field management, to serve essential transportation needs of field personnel. The cars in the field are also available for the use of Tulsa office personnel when they arrive in the divisions. Because of gasoline restrictions, the company exercises rigid control in allocating gas coupons, issuing them to meet only known operating requirements. Consequently, company personnel uses other modes of transportation, principally railway and bus service, wherever and whenever possible and expedient.

Operating Costs Up

An annual statement gives the operating cost of each vehicle used in company operations, and a notable increase in costs is apparent over the past two years, due principally to the inability to secure new equipment. Most of the fleet's passenger cars are Fords, Chevrolets and Plymouths, but in recent years, due to difficulty in obtaining low-priced

cars, it has been necessary to purchase more expensive makes, which will in time reflect an even greater increase in operating costs.

When the United States entered the war, regulations were established which allocated cars only to companies and persons whose activities were considered essential. To obtain a new car it is first necessary to make application through the rationing board, which will make a complete investigation and upon finding a new car justified, will approve the application. However, as the supply of new cars is about depleted, transactions of the latter nature make it necessary for the prospective buyer to locate a new auto and arrange the preliminary stages of the deal before the ration board will consider an application. *United States News* recently stated that fewer than 20,000 new passenger cars were for sale, which are fewer than a two days' supply in normal times.

All of this means only one thing, according to Freeman. "We must repair equipment and keep it in operation as long as possible, regardless of the expense. While there has been considerable delay and we have experienced some labor difficulties in repairs, the stockpile of repair parts is being well maintained throughout the country and the company has found that when repair work is planned in advance with dependable agencies or repair shops, it is possible to keep its equipment running."

Trucks Scarce

Regulations pertaining to trucks have been so rigid that it has been nearly impossible to purchase a new truck, regardless of the fact a stockpile has been maintained. Truck regulations have made it imperative that old equipment be repaired. During the past year there has been some liberalizing of the procedure, but despite the reserve stockpile at the beginning of the war, the quantity is about exhausted. The program now in prospect would permit the building of a certain number of new trucks and their delivery to essential industries in 1945. The distribution of such new trucks, however, is rigidly controlled.

Pickups and trucks used by production foremen, subforemen and geophysical parties receive the worst treatment of the automotive fleet, because they get around in all types of weather and over all types of roads. In Illinois, Indiana and Kentucky a tremendous mud problem develops during the spring and winter rainy months when the trucks are subjected to conditions under which they deteriorate rapidly. In Louisiana and Mississippi, the swamps create another problem in maintaining an efficient fleet.

In spite of all this, since late 1941, the company has been able to keep its equipment in operation, and to date has not purchased any new equipment to replace pickups and trucks. Under normal conditions, the company replaced its passenger cars when they had been driven about 35,000 to 40,000 miles, or had been in use three years. Under pre-war conditions such a policy proved itself economical, as each year the company's operating costs per mile decreased. Today, nearly all of the company equipment is from three to five years old and much of it has been driven from 60,000 to 80,000 miles. The fact that it has been possible to drive the equipment so long is attributable to the cooperation of employes in the operation of company cars and to the fact that the company has followed a policy of maintaining and repairing its equipment immediately whenever mechanical defects appeared.

A share-a-ride group has bad luck on the road. These are Louden pool employes of The Carter Oil Company and travel from Effingham to Louden, Fayette County, Illinois.

When transportation restrictions were put into effect, Carter division superintendents analyzed the company's travel situation in each locality and have doubled up on the use of equipment wherever possible without losing too much efficiency, decreasing the average mileage driven per month between 30 and 40 percent. Cooperation of the scouts of the various oil companies has also made a considerable reduction in traveling mileage possible. A scout from each company is assigned a certain section of a state in which the companies are interested, and the scouts then pool their information which covers the entire area, making it unnecessary for one scout to travel over the entire state.

Truck Tires Needed

One of the serious problems now predominant in the maintenance of automotive equipment is the inability to purchase tires for both automobiles and trucks, the truck situation being far worse than that of cars. The grades of synthetic casings available for purchase have not proved satisfactory, and due to bottlenecks in manufacturing, the quota of tires allocated is insufficient.

An interesting fact brought out by wartime restrictions on travel is that safety has been improved by restrictions on driving. Records disclose that due to adherence to the regulations and the desire to conserve rubber and automobile equipment, there has been a definite decrease in accidents, and in the accidents which have occurred the damage has been much less.

Mechanics work 'round the clock to keep vehicles of The Carter Oil Company on the road. The company's policy is one of maintaining and repairing its equipment immediately whenever mechanical defects appear.

Coring With Cable Tools

By PAUL V. McGIVERN
Baker Oil Tools, Inc.

THE spread of the water-flooding method of secondary recovery from the Pennsylvania fields to the Mid-Continent area, together with the increased application of repressuring by gas or air for secondary recovery has caused a widespread interest in cable tool coring. Cable tool coring, as such, reached its first peak in the Bradford area, although it was introduced in California and the Mid-Continent in early 1927. Its advent to the Bradford field heralded an unprecedented development in this phase of the industry, and the present activity in that area has caused it to reach even greater proportions.

Though the tool has remained substantially the same, the technique has been steadily improved upon until now, when the guess work has been entirely eliminated. A 90 to 95 percent recovery of data-giving cores is the rule, rather than the occasional happening. The tool itself insofar as action is concerned is the same as when introduced. A few dimensional changes, together with the acceptance of the advantages of the newer, and better fitted, steels and hard facing practices comprise the only changes in its construction. While these changes are not visible, the introduction of the various alloy steels and hard facing metals has tended steadily toward a more efficient and economical operation, with a resultant constant increase in the percentage of recovery and quality of cores.

Need for Cable Tool Coring

The need for cable tool cores cannot be rightly disputed. There are now in Nowata and eastern Kansas hundreds of wells being drilled to acquire needed information for flooding operations. Likewise a large number are being drilled in the Glenn pool and other areas seeking information that will enable the operator properly to repressure for secondary recovery. Had the original wells been cored and the proper saturation and permeability tests been made and logged at the time of drilling, this information would have been readily available and would have eliminated the necessity of the extensive and costly redrilling of these areas. It is true of course that many of these wells were drilled before cable tool coring was known. But, it is equally true that many of them were and still are being drilled since cable tool coring was possible.

Since every well less than 3500 feet deep at present is a potential water-flood or repressuring well, all the information for future development should be obtained and recorded at the time of drilling. If and when these wells are "drilled in" they should be "cored in."

The speed of coring is such that comparative costs between "coring in" and the conventional "drilling in" methods reflect in many cases a saving in time by coring. Close cost analysis over a period of time and under varying conditions show the coring costs to be comparable with the usual "drilling in" costs.

The prime purpose of coring is to obtain a true picture of the formation being drilled rather than of what the operator expects or would like to find. Hence, one cannot expect to find a close consolidated core from a formation that is actually loose and interspersed with shale breaks. This at first is a disappointment to the average operator as the cable tool cores will come out in the form of biscuits, indicating each break. Care and patience in the operation of the barrel will however give pieces indicative of the actual formation and will correlate in such a way as to present the actual picture.

The average operator unaccustomed to cable tool coring approaches it as an operation to be feared and one from which satisfactory results are to be hoped for rather than expected. Such is not the case and if coring is done with a few simple rules of procedure in mind unsatisfactory results are extraordinary and not the rule.

Hookup Described

The necessary hookup for cable tool coring is usually contrary to the operator's idea as to how it should be done and he is usually not convinced until he has tried it both ways. In order to obtain maximum and satisfactory results the barrel must be run on a wire line with a stiff socket. Should nothing but a swivel socket be available it should be locked to make it stiff. This may be done by cutting a short piece of forgie jack handle or hard wood and inserting in the joint between the pin of the jars and the socket mandrel before the joint is made up. The piece should be long enough to make up tight enough to prevent the swivel mandrel from working. The use of a "cracker" will seldom result in any recovery. The jars should be regular drilling jars, not fishing jars, and should be run between the socket and the stem, or sinker. A stem ordinarily used in the size hole being drilled should be used or as much steel as would ordinarily be used in drilling is preferable to less weight. The barrel itself should be screwed into the stem. The barrel should be inspected carefully and washed out after each run to insure the valves being in proper working order. The stroke of the barrel is limited to approximately five and one-half feet; thus the wrist pin should be placed in the proper hole to avoid exceeding this stroke.

Since the barrel for its proper operation depends upon the fluid-actuated valves, it is necessary to keep the barrel submerged in the drilling fluid at all times which will necessitate carrying at least 35 feet of fluid—either oil, water or drilling mud of light weight in the hole while coring.

The speed with which the barrel may be run varies with the amount of fluid in the hole, its density, and the formation being cored. The speed should be such as will allow the barrel to drop freely and travel the full stroke. This can usually be done by running from 28 to 35 strokes per minute with a fairly slack line. Too tight a line will cause the barrel to lift the core tube off bottom each time breaking the core. The core tube or inner tube should never leave bottom while the core is being taken.

Since the capacity of the tube is approximately six feet, it is advisable to run a sand pump or bailer after each run in order that the tube will not be partly filled with cavings and cuttings on the next run. If the formation is one that wears the drill shoes out of gauge quickly, it is a good idea to round ream the hole frequently. In any event a new drill shoe should not be run before reaming the hole as it is quite apt to stick.

Footage Per Drill Shoe

The amount of footage per drill shoe is governed entirely by the character of the formation being cored and by the material and workmanship used in the rebuilding of the shoes. Past experience has definitely proven the materials to be used as well as the methods of application both of which vary in given areas.

The matter of percentage of recovery is largely up to the driller but if he will follow the above suggestions an average recovery of 90 to 95 percent can reasonably be expected. The speed and ultimate cost of the coring is also governed largely by the driller. Naturally the novice will not get as good results as one who has cored before but practice will soon enable him to get the desired results. If any great amount of coring is to be done better results can be obtained by breaking in one crew to do the coring.

Though the capacity of the core tube is approximately six feet, if the formation cuts hard or wears the shoes rather quickly, it will be found that time is saved and the cost per foot reduced by taking three or three and one-half feet of core per run rather than by taking the maximum capacity of the tube. Waiting time with consequent cutting of costs can be lessened by use of an extra core tube complete. The full tube is removed from the barrel entirely, the extra one inserted and the cores may be removed from the full one while the barrel is being run back in the hole and another core taken.

Core Removal and Packing

After the cores have been taken extreme care should be exercised in their removal and packing. The continuity and footage should be accurately noted on each box. Notes on the general appearance and possible oil content should be made for a substitute record in case the cores should be lost in transit. They should be carefully removed and the more heavily saturated portions wrapped in waxed paper and sealed. When packed in wood boxes or paper cartons care should be taken so as to permit as little shifting as possible.

Too often valuable time and money is spent in taking cores only to have

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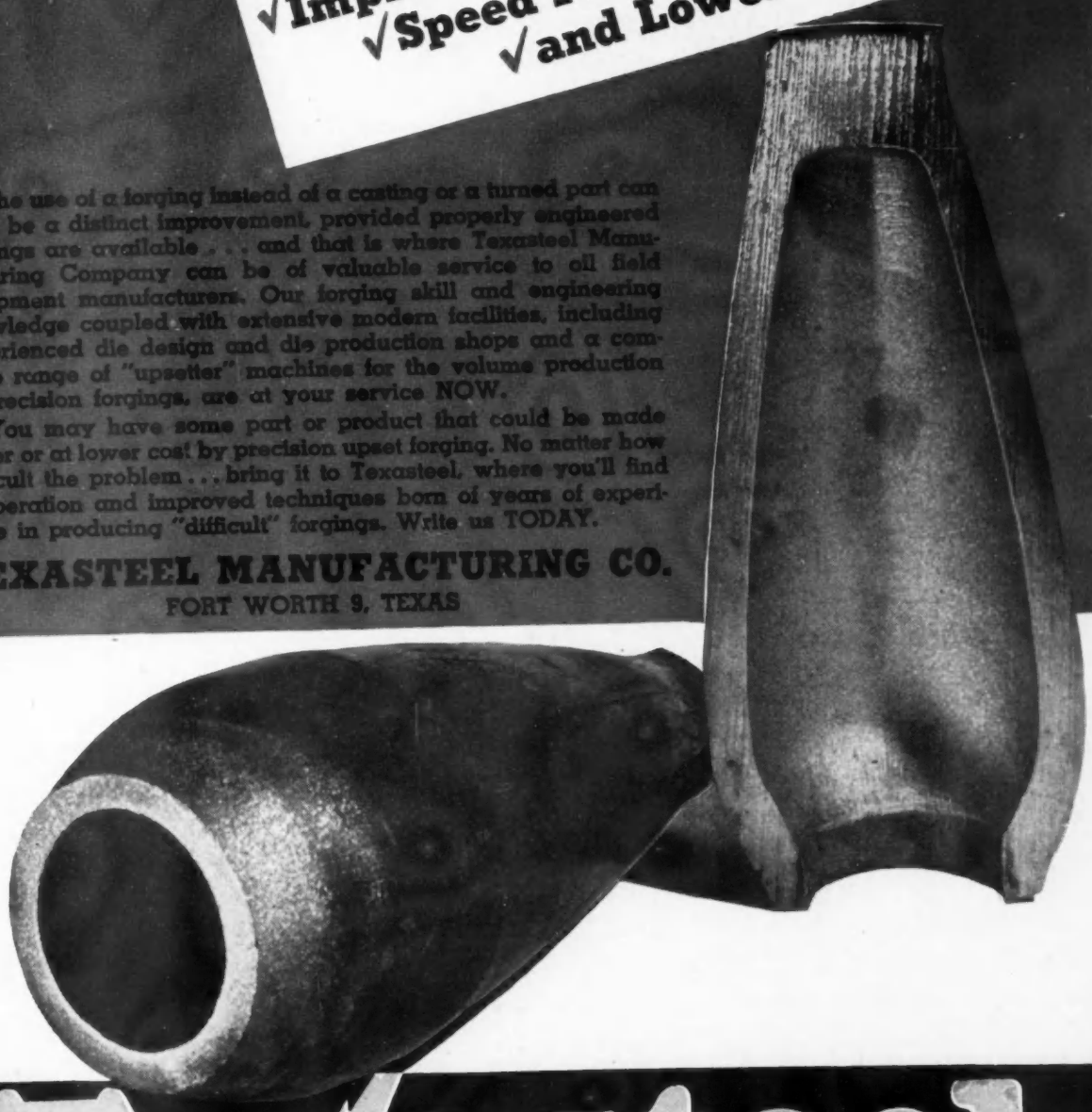

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PRECISION FORGINGS FOR THE OIL FIELD EQUIPMENT INDUSTRY

them rendered useless or of little value at best through careless handling after removal from the barrel. The method of removing varies also with the type of formation being cored. If the formation is a loose one, the cores can usually be removed with a piece of pipe or wooden rod to the end of which has been attached a piece of belting slightly smaller than the inside diameter of the core tube. Other formations are harder and pack very tightly in the barrel and must be removed by attaching the core extractor pump to the tube and applying pressure to push them out. In this operation no one should stand in front of the tube as it is quite often necessary to develop several hundred pounds pressure which in some cases suddenly releases the core with great force. A trough six or seven feet long should be made into which the core may be pumped. A piece of half round eave spouting across one end of which has been welded a stop bar makes an excellent trough. The cores should be carefully removed and placed in the shipping boxes or jars.

When the coring job is finished the barrel should be thoroughly washed out, the joints cleaned and protected and worn parts replaced and put away out of the weather to await the next job. All worn shoes, both drill barrel and trimmer, should be rebuilt to be ready for the next run. Drill barrel shoes should be finished with a diameter that will allow about three-eights of an inch clearance in the heaviest weight of pipe through which they will be run. In oder to avoid "keyseating" the hole and the sticking of the core tube in the drill barrel shoe, all drill barrel shoes must be ground concentrically both on the inside and the outside diameter which will necessitate hard facing them to a diameter slightly greater than the desired finished size. Likewise the actual inside and outside diameters of the trimmer shoes should be maintained when rebuilding.

Method Widely Used

Cable tool coring is by no means confined to United States fields. Many barrels have been exported and are in use in practically every field in the world. Nor is it confined to the oil country. They are being used extensively in testing for building foundations, bridge footings, and in locating and testing ore and coal veins; in fact in every place where subsurface samples and information is desired.

The taking of the core is but a preliminary step in developing the needed information and should be followed through to a satisfactory conclusion. To insure this, the cores should be sent to the laboratory as soon as possible after taking. Many of the larger companies maintain their own core testing laboratories in which the complete core analysis is made. But, for the smaller companies for whom this is not economical there are core testing laboratories scattered throughout the country at strategic points to which the cores may be sent and the results obtained within a few hours. There are also testing laboratories that will send trucks equipped with all the necessary testing apparatus to the well and make the tests as the cores are taken.

Gravity Meter Surveys

• CONTINUED FROM PAGE 36

miligal. At a depth of one mile and for a density contrast of .4, this error corresponds to about 200 feet absolute. The relative error between neighboring stations is, however, less than this figure. This indicates that if quantitative interpretation of gravity meter results is desired, extreme care must be exerted in field work and correction technique.

A further source of error is introduced by the removal of regional gravity effect or regional gravity gradient. This process which is often presently considered as "the interpretation" is replete with pitfalls because the regional gradient must be calculated and in so doing it is necessarily based on the total readings (anomalies as well are regional effects) and the regional gradient necessarily is affected by the merged effects of local gravity anomalies. Accordingly local anomalies are often removed in the process. The regional gradient by itself has a further undesirable feature; it shifts the local anomalies in one direction or another and fanciful if not incorrect reasoning is often used to take into account this horizontal shift. In all it is best to *base the quantitative gravimetric interpretation on the measurements uncorrected for regional gradient.* As a result of the mathematical treatment, the topography of the density contrast to which the readings are projected will appear in its true relief, including regional dip.

Range of Applicability

In its present status, gravitational prospecting is mainly used as a fast and inexpensive reconnaissance tool for the high-grading of wildcat areas to be later submitted to the intensive application of prospecting methods of higher depth resolution such as reflection seismic exploration, core-drilling and slim deep-hole drilling. In this reconnaissance campaign the objection has often been raised that the surface gravity map yields so many anomalous regions that it is hard to discriminate and to determine which ones are worthy of more expensive prospecting technique. Theoretically, all gravimetric closures, noses, contour crowding or spreading are features which might have significance from the point of view of oil and gas accumulation. The present method of "gravitational focussing" permits the calculation of structural features, perhaps with a margin of error somewhat higher than desirable, but nevertheless of sufficient precision for the determination of the existence of closed structure, fault, synclinal trough, reverse dip, etc., as is well evidenced by Figure 3. It is well to repeat that the margin of error in structural computation may be considerably reduced by the availability of pertinent geological data.

When such geological data are available, as when a field has been discovered and partly developed, the quantitative interpretation of gravitational data may be made with a high degree of precision in the immediate vicinity of the field. Further, if the station density is sufficiently high, one is in a position to outline the productive limits of the field with an accuracy comparable to what may be done with the reflection seismograph. The accuracy of the map will naturally be dependent on the precision and grid spacing of the gravity meter stations. For the determination of the productive limits of a new field, it is advisable to resort to a new high precision gravity meter survey with high station density such as a quarter-mile spacing. Since this can be done at low cost, the money saved in not drilling dry holes will be paid back many times.

Although the gravity meter is essentially a structural tool, it is not completely devoid of potentialities in the search for stratigraphic traps particularly those associated with truncated structure such as flank sands, porosity development in eroded limestones, and dolomites, etc. A high station density gravity meter survey would likely reveal a flank sand as a structural low and the limestone porosity as a structural high in parallel trends to the main truncated structural high.

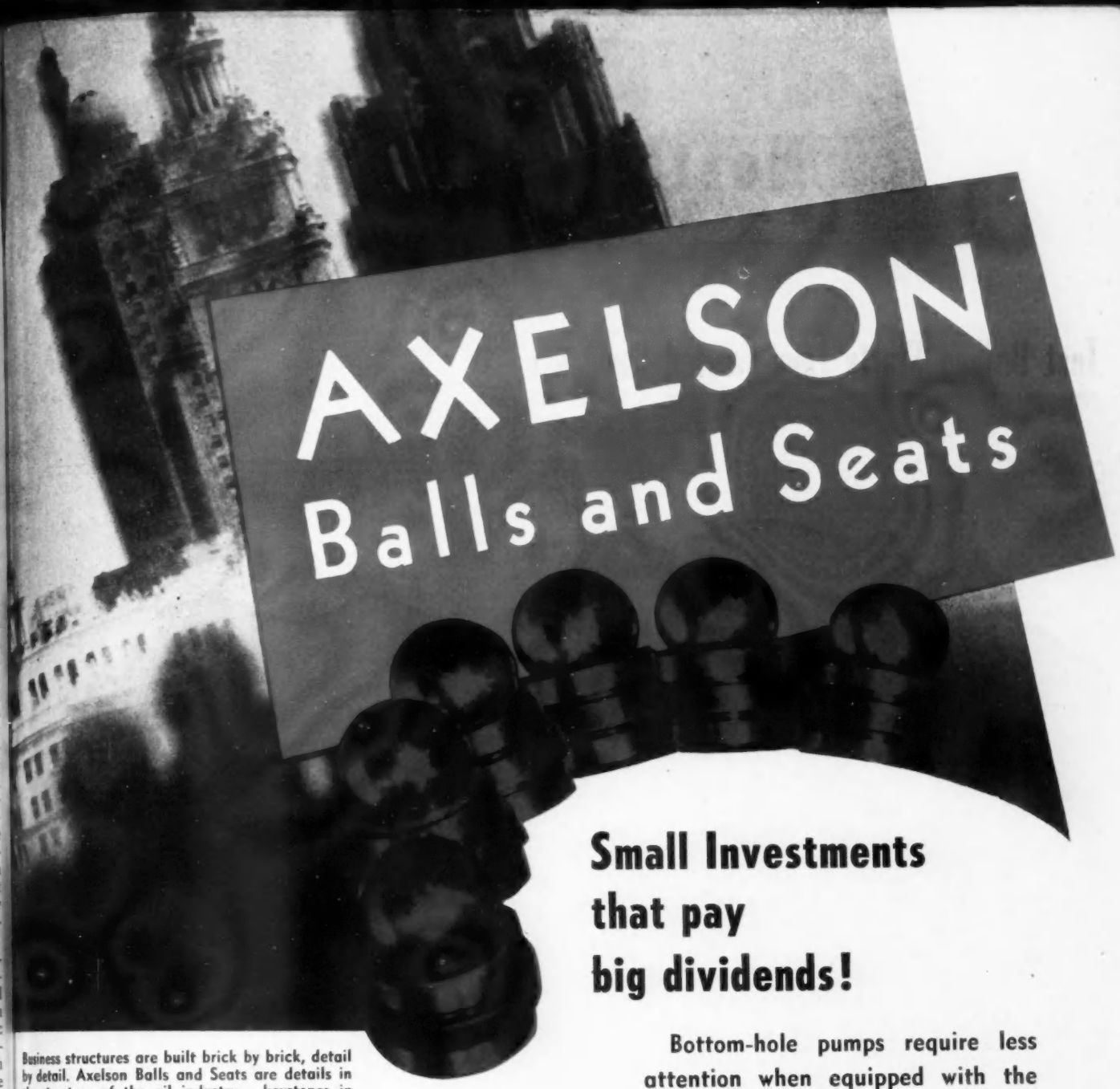
Detailed Computation of Structure

If a high resolution method is dispensed with before drilling a wildcat well on a presumably promising gravity meter high it may be advisable to resort to a detailed computation of the structure by the method here outlined from the old gravity meter survey or from a new high station density survey. This would be advisable when investigating an area of known high regional dip as is the case of Figures 2 and 3. As an illustration, the closed structure of Sections 5 and 8 is superposed on a regional southeast dip of about 1000 feet per mile. It became apparent during the interpretation that it was important to determine if this structure is closed to the northwest. Accordingly, points were calculated on a quarter mile spacing in Section 5 which indicated a northwest reverse dip greater than 200 fet, thereby establishing that the structure is definitely closed

A further use of the method here outlined is found in guiding the interpretation of seismic and other geophysical work. Seismic work is still faced with the problem of jumping stratigraphic horizons even when reflections are correctly matched or when using a high density of reflecting points as in the presently common practice of continuous profiling. Gravimetric evidences may indicate in which direction a seismic correlation shift is justified.

In passing, it might be well to remark that the present procedure of quantitative evaluation of gravimetric surveys is equally applicable to the evaluation of magnetometer surveys though a complication is introduced by the frequent anomalous magnetic polarization of the basement rock.

Another important advantage of the method resides in its ability to distinguish between a shallow and a deep mass anomaly. If the focussing of the measurements is made on a plane deeper than the anomaly producing mass the series expansion used in the calculation will diverge and will be unusable for the stations immediately overlying the shallow disturbing mass. If deep structural features are nevertheless required, it becomes necessary to secure density data and the geological extent of the disturbing formation in order to subtract its gravitational effect and subsequently proceed with the interpretation of deep structural features.



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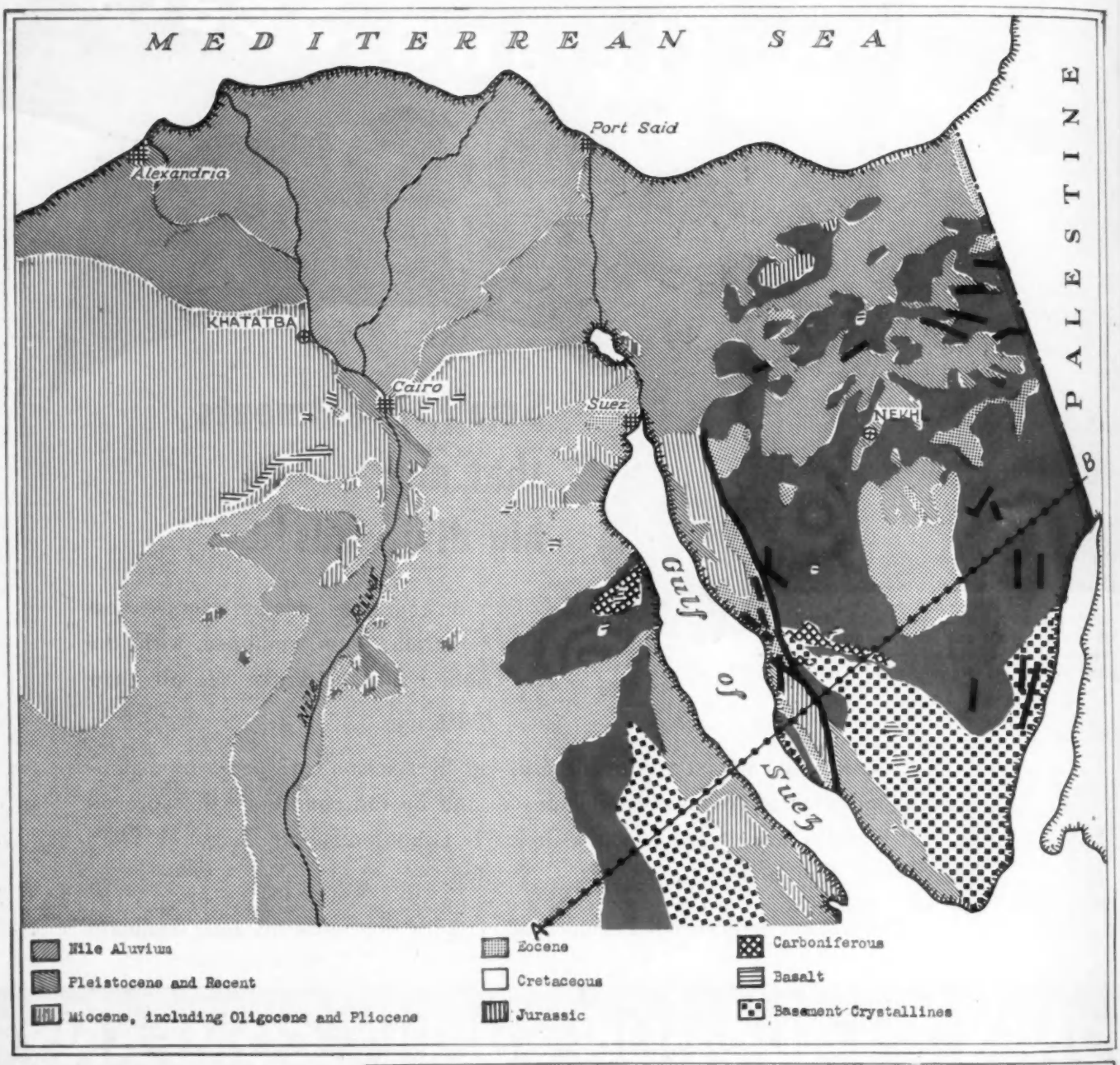
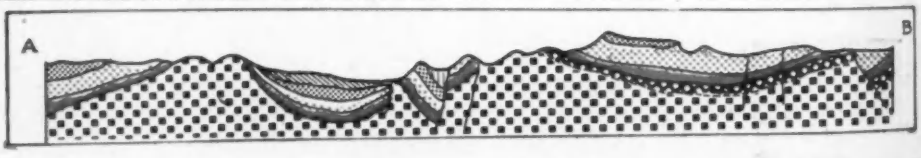
Test Drilling Starts Long-Awaited Campaign

By DON L. CARROLL
Foreign Editor





Geological map of north Egypt. Below is a generalized cross-section along line A-B, in which Nubian sandstone of the Lower Cretaceous-Carboniferous is shown in dark red.

THREE drilling rigs on wildcat locations in northern Egypt are seen as forerunners of numerous attempts that will be made in the immediate future to open new fields. Indications are that the most intensive search will be made closer to the Mediterranean coast than heretofore.

Fifty-five miles east of Suez, at El Nekhl, Standard Oil Company of Egypt, a Standard Oil Company (New Jersey) subsidiary, started drilling operations in December. The test was abandoned in March at 5570 feet due to drilling difficulties. The Nubian sandstone, principal source of oil in the Red Sea fields to the south, had been penetrated but it was intended to drill deeper.

South Mediterranean Oilfields, Ltd., (The Texas Company-Standard Oil Company of California) spudded in at Khatatba in October, and sometime ago had reached 5800 feet and continued to drill. Location is 34 miles northwest of Cairo, on the west side of the Rosetta branch of the Nile River.

The latest test to start was that of Anglo-Egyption Oilfields, a subsidiary of Royal Dutch Shell. This operation is at Ain Musa (Moses Springs), just south of Suez on the east side of the head of the Gulf of Suez. It encountered a very large and high pressure artesian water flow at less than 300 feet. Surface casing had not been set, and according to latest available information the water flow had not been brought under control.

In addition to the three companies mentioned, Socony-Vacuum Oil Company is expected to start an exploratory test. All four have taken out exploration permits covering the maximum total acreage allowed by the Egyptian government; and in a number of cases permits have been cancelled on southern Egypt parcels in order to add to holdings in the north.

Prewar Permits Still in Force

The Egyptian mineral laws stipulate that no company (including subsidiaries) may obtain or hold exploration permits on more than 240 separate blocks. Blocks must not exceed 100 kilometers and must be rectangular in shape. Permits allow geological and geophysical exploration for a term of one year, renewable for an additional year, and require payment of 10 pounds sterling annually ($41.60 at current rate). In order to drill, it is necessary to obtain prospecting licenses, covering selected areas not less than four square kilometers in size, at a fee of 25 pounds sterling per square kilometer plus damage deposit. Such prospecting licenses are renewable annually until the holder becomes eligible to take out a mining lease.

A mining lease, in turn, must cover a selected area lying within the limits of the prospecting license area, and must contain at least one producing well. A lease is valid for 30 years and may be renewed for 15 additional years under the original terms, which require the payment of rental at the rate of 2½ pounds sterling per hectare per year, and gross production royalty of 15 percent. The Egyptian government reserves the right to purchase up to 10 percent of the crude oil or refined products at 10 percent discount. Operations must be continuous for the term of the lease, beginning within four months from the date of the lease. In addition, operators must employ at least 90 percent Egyptian labor.

MORATORIUM ENDED

The Egyptian government has notified oil companies that the moratorium on exploration commitments has been abrogated as of April 1, and that exploration permits now in force will be subject to terms of the national laws.

All exploration permits are valid for one year, but are renewable for one additional year, thereby allowing only two years in which to pursue geological and geophysical investigations on which selection of prospecting license tracts can be based.

At the beginning of the war the Egyptian government declared a moratorium on enforcement of time limits on permits and licenses, allowing companies to postpone exploration and drilling until such activities can again be carried on under normal conditions. In the meantime, companies have been allowed to do exploratory work without jeopardizing permit time limits, although they still are not allowed to send parties into the western desert because of the mine fields which will not be cleared out until after the war. The mined area, west of Alexandria, is rather solidly held under exploration permits by each of the four companies, and is regarded as promising territory.

Production Limited

In the past, drilling exploration in Egypt has been confined to the area bordering the Red Sea and the Gulf of Suez, where the only producing fields have been developed and operated by Royal Dutch Shell and Egyptian government interests. No American company has succeeded in finding production there, although both Socony-Vacuum and Standard (New Jersey) interests have wildcatted extensively along the west side of the Red Sea. During 1944 Standard Oil Company of Egypt drilled three unsuccessful wildcats in the vicinity of the Ras Gharib field, and as a result the company relinquished its permit interests in 12 full-size blocks in that area.

While four fields have been developed at the head of the Red Sea in a restricted area within the Red Sea graben block, none has been of major rank, although by rigorous forcing of wells the combined output of the Ras Gharib and Hurghada fields rose to approximately 25,000 barrels per day between 1941 and 1944 to meet military demands for prod-

ucts of the two refineries at Suez. Production has ceased in the Gemsah and Abu Durba fields. (See map in December 11, 1944, THE OIL WEEKLY.)

Failure to find additional producing localities along the Graben trend is believed due mostly to the fact that nothing short of actual drilling is likely to provide reliable information on subsurface conditions in most of the area. Structural mapping by both geological and geophysical means is virtually stymied because of the very thick mantle of so-called Miocene sediments that cover the folded and faulted bedrock section containing the Cretaceous and Carboniferous Nubian sandstone series in which most of the oil occurs. The difficulties attending interpretation of geophysical data must be surmounted before further success can be expected in the search for oilfields within the graben area.

Geology Clearer In North

Throughout most of the Sinai Peninsula (to the east of the Gulf of Suez) and the northern part of the Egyptian mainland the Miocene is either absent or comparatively thin, so that the structure and sedimentary facies of Eocene and older strata can be more easily observed and mapped. Likewise, geophysical exploration yields more reliable results.

In addition, the presence of a more complete Mesozoic section adjacent to the Mediterranean coast suggests the real possibility of ultimate discovery of commercial accumulations of oil along shoreline wedge-outs of Triassic beds that may extend inland for some distance. The pinning down and tracing of such buried shorelines is believed to be a primary objective of initial wildcatting operations in the area.

Tests of Triassic and lower beds will, of course, provide checks on the producing possibilities of the Cretaceous Nubian series. In this connection, it is reliably reported that excellent shows have been encountered in the Cretaceous in drilling at El Nekhl in mid-January. It is understood that this well will be taken through the Carboniferous to basement rocks as a stratigraphic test, depth considerations permitting. A thickness of 7000 feet is a reasonable estimate of the total section of stratified rocks in that area.

Farther west, the triangular Nile delta area is underlain by such a great thickness of Pleistocene and recent alluvial beds that even the upper Tertiary beds are deeply buried there, and the entire bedrock section has subsided to such a degree that no interest has been exhibited in its possibilities except along its interior border where Miocene beds are only thinly covered by river alluvium.

In northeastern Egypt, where Tertiary

■ CONTINUED ON PAGE 49

Recent Court Decisions Involving Oil Production

By LEO T. PARKER, Attorney at Law, Cincinnati, Ohio

FEW officials of oil-producing companies have spare time to study complicated higher court decisions. Obviously, modern higher courts render decisions in accord with modern principles, which change almost daily. The "established" law of yesterday should be avoided by oil company officials because frequently it differs fundamentally from present day and modern higher court decisions.

In this article late and leading higher court decisions are reviewed. From these simplified new decisions readers should without difficulty acquire knowledge to enable them immediately to improve their legal liability conditions.

CONSIDERABLE discussion has arisen from time to time over the legal question: What amount must lessees pay lessors when the royalty contract is based upon and specifies "market price at the wells"?

For illustration, in *Shamrock Oil & Gas Corporation v. Coffee,* 140 Fed. Rep. (2d) 409, reported April, 1944, a property owner sued an oil company to recover additional royalties under oil and gas leases. The royalties were based upon the "market price" at the well, and a contract clause provided: "B. On gas produced from said land and sold or used off the land, or in the manufacture of gasoline, including casinghead gas, the market price at the well of 1/8 of the gas so sold or used, provided that if and when lessee shall sell gas at the wells, lessor's royalty thereon shall be 1/8 of the amount realized from such sale."

Under the contract the oil company took the gas from wells, which it had drilled on the land, and transported same through the pipes of its gathering system to its plant. In the process of gathering and transporting gas from well to plant it becomes commingled with large volumes of similar gas from other wells. At the plant of the oil company the gas was used for manufacturing gasoline, butane, and propane. The residue was sold by the oil company principally to carbon black plants for utilization in the manufacture of carbon black. The oil company made monthly settlements with the property owner for the gas so produced in sums which it says represented the market price at the well of the gas produced. However, the property owner contended that he should receive a great deal more payments, considering what the oil company ultimately obtained for the gas.

It is interesting to observe that the higher court interpreted the contract to mean: The contract is that if Shamrock (the oil company) sold the gas at the mouth of the well the royalty owners would take their part of what it sold for. In the event the gas were used by Shamrock to make gasoline or otherwise, or was sold after being removed from the lease, the royalty owners were to have the "market price" at the mouth of the well. A little was sold to drillers and the like away from the lease, but it is negligible, and would fall under the market price provision. The great bulk of the gas was used to extract gasoline and butane, with the residue sold for carbon black. The "market price" at the well is, therefore, the only applicable contract provision.

This court went further by explaining that the "market price" is the price that is actually paid by buyers for the **same** commodity in the **same** market. It is not necessarily the same as "market value" or "fair market value" or "reasonable worth." Price can only be proved by actual transactions.

Law of Independent Contractors

There is a vast legal difference between a legal employe and an independent contractor. For example, among other legal differences, an employer is not required to pay such taxes as social security, state workmen's compensation, unemployment and the like on an independent contractor. Moreover, an employer is not liable in damages for injuries to persons or property caused by an independent contractor. Neither is an employer liable in damages or for payment of compensation to an independent contractor killed or injured while performing his work.

Frequently, the owner of rented equipment does not supply employes to operate it. Then the question is who is liable for injuries to employes of the person who rents it for use?

For illustration, in *Lambert v. Richards-Kelly Const. Company,* 35 Atl. (2d) 76, reported March, 1944, it was shown that because a boom hoist cable of a crane was too short to be reasonably safe, the weight of the boom pulled the cable from the drum, on which it was inadequately wrapped, and permitted the boom to fall and kill an employe of a company which had rented the equipment for its use.

The question presented the court was whether the owner of the equipment or the company which rented it for its use was liable for death of the employe.

This court held that the jury had a right to hold the owner of the equipment liable if the testimony proved that he knew that **such equipment was** unsafe or defective and had failed to warn the employes of the danger.

Considerable discussion has arisen in the past over the legal interpretation of certain important words used in the usual state workmen's compensation act. Recently, a higher court held that the terms "occupation" and "industry" when used in connection with "disease" are interchangeable and have the same meaning. See *Mutual Company v. Rozon,* 30 A. (2d) 474. The expression "industrial disease," means a disease related to the labor or occupation which an employe was engaged. However, no employer who pays for and holds an insurance policy is protected **except strictly** by the terms of the policy.

For example, in *Inter-State Oil Company v. Equity Mutual Insurance Company,* 183 S. W. (2d) 328, reported July, 1944, it was shown that a corporation for many years has been engaged in the business of processing oil and greases. This corporation in compliance with state laws paid insurance premiums to an insurance company with intentions to protect and provide compensation to their employes.

An important clause in this insurance policy stated that the policy expressly excluded from coverage all claims against the employer based on occupation diseases.

An employe was directed and required to wash and clean certain barrels in gasoline. In the discharge of this duty and by reason of the gradual and

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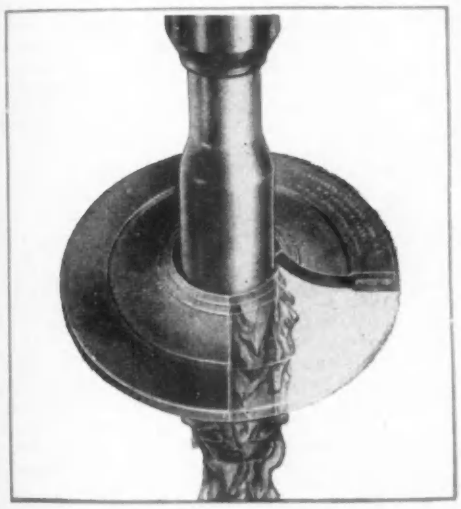

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cumulative effect of doing the work from day to day, he suffered injuries or a disease. He filed a suit to recover damages from his employer who contended that the insurance company, to which premiums had been paid for many years, should compensate the employe. The higher court refused to agree with this contention, and said:

"We hold that if it be shown that a suit brought against the assured be based upon facts not within the coverage, then no duty devolves upon defendant (insurance company) to defend such a suit."

Profits Anticipated

When either party to a valid contract breaches any term, the other party is entitled to sue and recover damages equal to the full profits he would have earned had the contract not been breached by the other party.

For illustration, in *English's Ex'x v. Noe*, 183 S. W. (2d) 630, reported January, 1945, it was shown that a land owner contracted with a drilling contractor to drill three wells. After the first well was drilled the property owner refused to let the contractor drill the other two wells.

In subsequent litigation the higher court said: "Three hundred fifty dollars was a reasonable profit over and above expenses for the drilling of wells such as the ones in question."

Statute of Limitations

The policy of the law has always been to provide some period of limitation beyond which a person could not be subjected to a fine or forfeiture. Generally speaking, a statute of limitations directly refers to the kind of suits to which it is applicable.

However, a recent higher court held that a limitation statute is applicable although apparently foreign to the particular kind of suit.

For instance, in *McHugh v. Placid Oil Company*, 19 So. (2d) 221, reported September, 1944, the commissioner of conservation filed suit against Placid Oil Company and against H. L. Hunt to obtain separate judgments as penalties for alleged willful and intentional violations of state statutes in producing oil from wells, and delivering and transporting quantities of oil in excess of the allowables fixed for those wells by orders of the commissioner.

A separate section of the state laws provides that no person shall be prosecuted for any fine or forfeiture under any law of this state unless the prosecution for the same shall be instituted within six months of the time of incurring such fine or forfeiture.

Although it was strongly argued that this section was applicable only to criminal suits in which the law was found, the higher court refused to hold the oil corporation liable. This court said: "The policy of the law has always been to provide some period of limitation beyond which a person could not be subjected to a fine or forfeiture."

Easement Implied

Modern higher courts will imply an easement where the implication is required in fairness and justice to a purchaser of real property.

For example, in *Lively v. Standard Oil Company of Louisiana*, 182 S. W. (2d) 990, reported September, 1944, it was shown that an owner of two tracts of land sold the front tract to an oil company and reserved a right-of-way to go from the front to the rear of the property conveyed.

Later the owner sold the rear lot but forgot to include in the deed a clause of the reserved right-of-way.

In subsequent litigation the higher court implied that the purchaser had a legal right-of-way through the front tract, saying: "We are of opinion that the easement is in gross violation because of the express reservation in the deed above referred to . . . "

State Law Must Specify Liability

Obviously, no manufacturer is liable in damages for unusual occurrences, unless a valid state law defines the liability.

For illustration, in *Sterling Aluminum Products, Inc., v. Shell Oil Company*, 140 Fed. (2d) 801, it was shown that a purchaser informed the manufacturer that he desired a penetrative fluid that was non-corrosive, non-inflammable and non-explosive, for testing automobile motor blocks for cracks. The manufacturer supplied a chemical product which when being used, effected death of an employe when his clothing caught fire and burned him to death, caused by a freeze plug which blew out of a fluid-filled motor block and shattered an electric light globe, which ignited the fluid.

The employe's employer paid compensation insurance amounting to $4000 to the employe's dependents, and then sued the chemical manufacturer to recover this amount.

The higher court refused to hold the manufacturer liable to the employe's employer because no state law specified that manufacturers or sellers are liable in damages for injuries sustained under the above circumstances.

Damages Allowable

Considerable discussion has arisen from time to time over the question whether a land owner may recover all damages provided in a lease contract under which he is guaranteed specific damage allowances in event the lessee breaches the contract. This point of law was decided in *Avery v. Fredericksen & Westbrook*, 154, Pac. (2d), reported January, 1945.

The facts of this case are that a company leased 3½ acres of land and agreed to pay the land owner for stipulated privileges and, further, agreed to put the surface of the land in the same condition as before the work was done. The company breached the contract and the property owner sued for $10,400 damages, the actual cost of putting the land's surface or contour back to its original shape.

The higher court allowed the land owner exactly $87.50, the true value or price at which the land would sell on the open market. This court said:

"In the case before us the market value of plaintiff's (Avery's) land has not been depreciated, he has been allowed the full value thereof, and still has the land. It cannot be said, therefore, that he has suffered any detriment for which he is not compensated."

Also see *Johnson v. Hinkel*, 154 P. 487, 490, where a land owner leased land to a company for oil drilling. The lease provided that in the event the land proved non-productive and was abandoned by the lessee, he would not remove the casings from any well. The company abandoned the land and removed the casings whereupon the land owner sued and recovered judgment in the lower court for $22,500, found to be the cost of replacing the casings.

Since the lease contract provided that the land could be purchased for $20,000, the higher court reversing the judgment of the lower court said that the land owner was entitled to recover his pecuniary loss only. This higher court said further that the land contained no oil, and the only damage suffered by the land owner was the value of the casing. The court said:

"It is a fundamental rule of law that courts will not, except where exemplary damages are given, allow a party to a contract to recover upon its breach more than he would have received by its due performance."

And again see *Green v. General Petroleum Corporation*, 270 P. 952, 60 A.L.R. 475. In this case a property owner sued for damages to his land caused by the blowing out of an oil well by an oil company on adjoining land, which resulted in depositing debris on his land, destroying lawns, trees, etc. The measure of the damages to the realty was held to be as follows:

"If the cost of repairing the injury by removing the debris deposited by the appellant (oil company) and otherwise restoring the premises to their original condition, amounts to less than the value of the property prior to the injury, such cost is the proper measure of damages; and if the cost of restoration will exceed such value, then the value of the property is the proper measure."

Also, in *Salstrom v. Orleans Company*, 96 P. 292, where property was covered by debris from operations on adjoining property, the court said that if the cost of removing the debris would amount to less than the value of the property, as it was prior to the injury, such cost would be the proper measure of damages; but if the cost of repair would exceed such value, then the value of the property would be the proper measure.

Lessor Waives Rights

A lessor may automatically waive all legal rights to cancel a lease although he bases the suit on the ground that the lessee breached his contract.

For illustration, in *Beck v. Norbeck Company*, 151 Pac. (2d) 1014, reported November, 1944, it was shown that a lessor more than three years after a well had been drilled by the lessee, and with full knowledge of its condition, entered into a unit agreement concurrently with the lessee and owners of other neighboring tracts. This agreement provided for allocation of the total production in the area to the several tracts "for the use and benefit of the parties."

In subsequent litigation the higher court held that in view of this latter agreement the lessor automatically waived all past and previous defaults then existing and known to the lessor and expressly recognized the lease as valid and subsisting. This court said: "She (lessor) is therefore not now in a position to contend that the default terminated the lease."

Thus, any later contract is valid by which a lessor confers special privileges on a lessee, or makes a new agreement which implies that the lessor recognizes that the old lease is valid, and shall remain effective.

Pipe Line Company Follows Law

Modern higher courts consistently hold that many state legislatures are authorized to classify oil pipe lines as a separate class of property for tax purposes. In some states pipe lines are

not specifically mentioned in the constitution but the courts broadly construe state laws based upon general constitutional provisions.

For instance, in *Stanolind Pipe Line Company v. Jenkins*, 151 Pac. (2d) 422, reported November, 1944, the litigation involved taxation. In this case it was shown that in Oklahoma under the provisions of sections 2, 20 and 22, article X, of the constitution, the legislature is authorized to classify property for the purpose of taxation and to provide for the valuation of the different classes of property by different means or methods.

The higher court held under those provisions the legislature is authorized to classify oil pipe line companies as a distinct class of property and to provide for the assessment of the property thereof by the state board of equalization.

In this case a pipe line company fully complied with the constitution and statutes with respect to listing its property for assessment for ad valorem tax. It included in such list its right-of-way easements, and the state board of equalization accepted such listing and assesses the value of such property. This value was certified to the county assessor.

The court held that, under these circumstances, no resale deed covering the land across which a right-of-way easement runs can extinguish or invalidate such easement.

Law of Agency

It is the settled law that where a person, who is responsible to another for whatever may be recovered in a suit, has notice of a suit against the latter and has been given an opportunity to appear and defend the suit, the judgment if obtained without fraud, will be conclusive on him whether he appeared or not. Therefore, in view of this rule of law, there are circumstances under which a judgment against an agent may be binding on the principal or vice versa.

For illustration, in *Butler v. Continental Oil Company*, 182 S. W. (2d) 843, reported December, 1944, suit was filed by a receiver against Continental Oil Company for recovery of certain sums alleged to have been paid on oil land owned by M. B. Butler. The Continental Oil Company sued Butler seeking a recovery of any amount the receiver might recover from it.

During the trial the testimony proved that the relationship of agency and principal existed between Butler and the oil company. Therefore, the higher court held Butler liable to the oil company, saying:

"The agent's right to indemnity in an action of this character is not confined to cases wherein a tort obligation has been incurred to a third person by reason of the agent's acts, but it extends also to contractual obligations properly incurred in the execution of the agency and on the principal's account."

Also see *Meachem, Agency*, 5th Ed., Sec. 1606; *Clark v. Jones*, 16 Lea 351, 84 Tenn. 351, where it was disclosed that an agent purchased and shipped property for his principal, for which his principal had failed to pay. The agent was sued for the purchase price of the property and was compelled to pay it. This higher court held that the principal was bound to reimburse the agent for the amount so paid, and for his costs and attorney's fees.

Northern Egypt

■ CONTINUED FROM PAGE 45

beds have been largely removed, general structural conditions of the Eocene and Mesozoic rocks are evident at the surface by reason of abundant outcrops, all the way from the Palestine border to the edge of the desert west of the Nile. On the Sinai peninsula exposures are dominantly of Cretaceous age, with occasional caps of lower Eocene strata occuring as generally disconnected mesas or small plateau remnants that protrude through alluvial deposits. Westward from Suez and the upper Red Sea, and across the Nile valley, Eocene rocks are exposed almost continuously, with a complete Cretaceous section supposedly preserved below, and an unknown thickness of lower Nubian sandstone underlying the Cretaceous.

Standard Oil Company of Egypt has completed its first wildcat well in a block centering the Sinai Peninsula. Although unsuccessful, good showings were encountered in the Cretaceous Upper Nubian section. The well was drilled rather low on structure in an attempt to appraise the possibility of shoreline wedge-out conditions in the Triassic and Jurassic section that occurs in great thickness farther north but which is absent in southern Sinai. The test was inconclusive in that regard, but more wells will be drilled in the area to secure more information on stratigraphic trap possibilities.

Second Test Planned

As a result of the favorable indications in the Cretaceous the company is rigging up for a second test to the south, higher on the same structure, in the hope of establishing commercial production before trying to pin down the supposed wedge-out trend against the north flank.

The only Jurassic beds exposed in northern Egypt are in the Gebel Maghara region of northern Sinai, in the first line of low mountains inland from the Mediterranean. In this locality, below the lowest fossiliferous beds than can be definitely assigned to the Jurassic, there are scattered outcrops of unfossiferous marly limestones and standstones that have been tenatively identified as Triassic. This entire lower Mesozoic section is apparently absent in Egypt proper and in the southern half of the Sinai peninsula, which justifies the conclusion that it wedges out to the south and southwest, allowing lower Cretaceous beds to rest directly on the Carboniferous in the normal geological section of northeastern Egypt.

Parallel Structural Trends

The northwest-southwest trend of the fold which has brought Jurassic rocks to the surface at Gebel Maghara is readily apparent. A series of parallel folds, with some faulting, continues well into the southern half of the Sinai peninsula. These lines of disturbance can be traced southwestward into the mainland of Egypt, where they are marked not so much by outcrops of the beds involved, but rather by lines of basalt plugs, formed as a result of the folding. So far as can be determined the intrusion of these plugs did not produce local domes along the anticlinal trends.

Cairo is situated at or near the crest of one of these extended folds. The structure passes under the pyramids of Giza west of the city, and can be observed eight miles west of the pyramids in an extensive outcropping of upper Cretaceous and lower Eocene beds on opposite sides of a major fault cutting the crest of the anticline along the direction of the folding.

Five miles northwest of the pyramids, at Abu Roash, a related structure, also faulted, provides an ample exposure of lower Cretaceous Nubian beds. This occurrence furnishes the only surface evidence of the presence of a Nubian section as far west as the Nile valley.

The southernmost of these parallel anticlinal trends crosses the Gulf of Suez about midway between Suez and the Ras Ghareb oil field, exhibiting a truncated closure pattern that can be readily mapped from the western shore of the gulf nearly halfway to the Nile, in the lowland area separating the northern and southern Qalala plateaus. Upper Carboniferous beds are exposed in the center of the fold, and cut by a line of basalt plugs. The succession of strata exposed in the structure include hundreds of feet of Lower Cretaceous (Upper Nubian) sandstones and conformably overlying Middle Cretaceous beds around the periphery, which are overlapped by non-marine Eocene sediments.

Feature Cut Off

This prominent structural feature is cut off at the gulf shore as a result of the mid-Miocene faulting that formed the Red Sea and Gulf of Suez basins. It undoubtedly extends northeastward into Sinai under the Tertiary fill, since it attains its greatest width along the line of the cutoff fault. It is evident that the parallel fold lines of northeastern Egypt were created in Eocene time, and that diastrophism in the area reached a climax in the Miocene, when the major fault system of the region was developed at right angles to the lines of earlier folding.

Since structural conditions of Mesozoic strata can be determined with much less difficulty by geological and geophysical means in northeastern Egypt than farther south where searches for commercial production have been almost entirely confined, the prospects of successful explorations must be considered promising; and now that testing is actually underway it is likely to be continued and expanded without interruption for some time to come, especially when drilling and production equipment can be shipped to Egypt in the required volume.

24 Coastal Tankers to Be Completed During the Year

Twenty-four 1500-ton coastal tankers will be completed this year under contracts for their construction awarded last week by the commission.

Six of the 230-foot ships will be built by United Concrete Pipe Company, Long Beach, California, at $588,929.60 each with the commission procurement of certain materials, all to be delivered within 270 days; twelve will be constructed by New England Shipbuilding Corporation, South Portland, Maine, at $595,168 each.

Anchor Cuts Pulling Unit Setting-up Time

Device ties back end of truck to derrick floor with novel fittings. Auto arrangement also is effective

ONE of the several sources of lost motion entailed in setting up the portable pulling unit on a well to be pulled is the matter of anchoring the back end of the truck unit to the derrick floor. Outside of the weight of the truck assembly itself, all the strain of the well load is brought to bear on this anchor, so it is highly important that the unit be as rigid as possible commensurate with the strength of the base to which it is attached. A method employed by the production department of one major company involves use of two short matching lengths of heavy 2½-inch pipe used in conjunction with large I-bolts, the latter designed to be removable by screwing them into threaded fittings imbedded in the concrete derrick floor.

Truck Arrangement

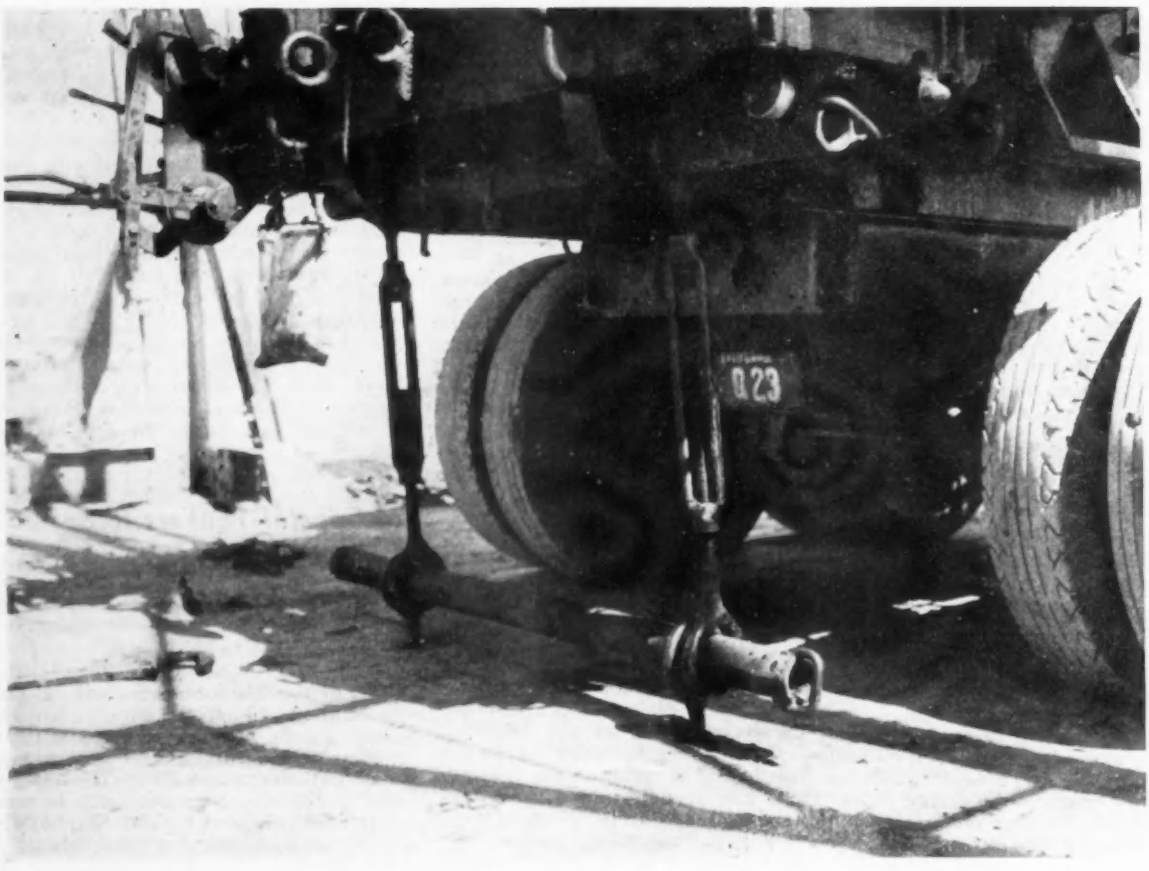
The end of each length of pipe is provided with a small welded collar and a short cross-bar by which the pieces may be conveniently handled. In the ends of the two principal longitudinal frames of the truck bed are cut two round holes, the inside diameter of the openings being just large enough to accommodate one of the pipe bars laid transverse to the frame members. A pair of heavy eye-bolts are screwed into the derrick floor fittings, a matching pipe bar also being passed through the matched openings of the bolts. Tying the two horizontal bars together are heavy turnbuckles, modified by welding cold-rolled rings having an inside diameter equal to at least the pipe outside diameter, replacing the conventional small hooks and eyes.

In arranging the hold-down assembly, the truck is backed over the edge of the floor until the underside loops match fairly well with the eye-bolts on the floor. The turnbuckles then are assembled in the manner illustrated in the photograph, the pipe bars being run through the matching eyes on both the truck and floor fittings. Following the correct placement of the bars, making sure that the turnbuckle eyes lie alongside, or as near as possible to the tie-down eyes so that no appreciable bending strain will be applied to the bars, the turnbuckles may be tightened to any degree desired.

Upon completion of the job when the tie-down is dissembled, it is a matter of but a few minutes work to loosen the turnbuckles and remove the two bars. The latter are then stowed away in a pair of matching holes cut into the rearward-facing members of a transverse section of the truck frame. Lined with pipe of slightly greater diameter than the bars, the two fittings may be easily slid in a short distance, then held in that position by hooking the two small cross-bar handles over matching hooks suspended by light chain from a point farther to the rear of the truck frame. The pipe bars are held in their receptacles and prevented from working backward by the limiting arc of swing of the light chains.

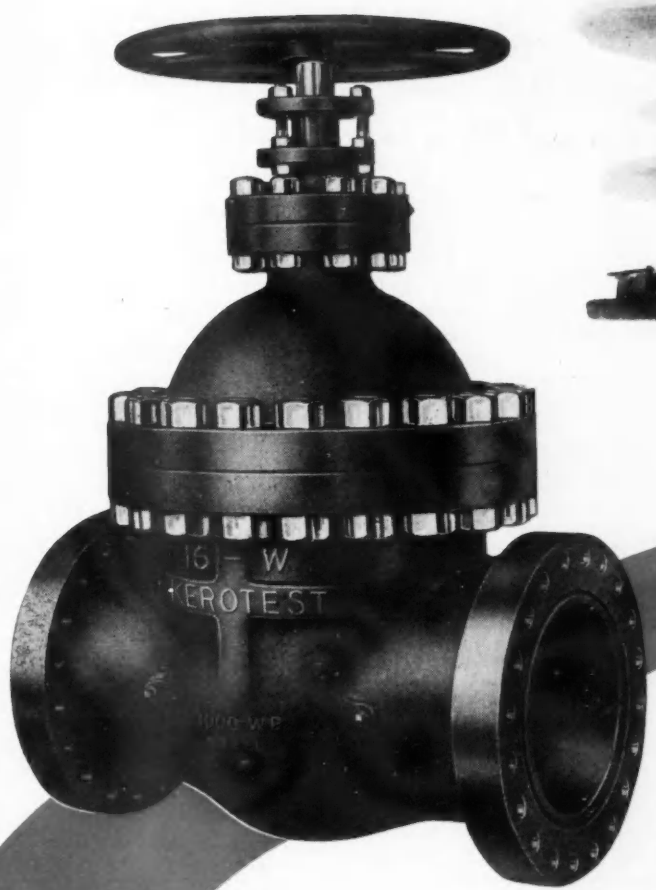
Receptacles Provided at Wells

The floor eye loops are removed by unscrewing them from threaded receptacles previously anchored into the concrete at the time the floor was laid. Each of the wells serviced by the unit in this particular area are equipped with similar receptacles in the floor, making the operation of anchoring the pulling unit a simple one. With the flexibility of the cross-bar and turnbuckle system it is not essential that the truck be spotted exactly in a certain place each time, and there is never the bother of wrestling with twisted and hard-to-handle wire line lashings at each set-up. The threads in the floor receptacles may be protected by covering them with sucker rod box thread protectors. While the threads probably will not engage each other, the weight of the protector will be sufficient to hold the flat top over the hole and prevent much dust and foreign material from entering.



Paired hold-down eyes set in concrete accommodate one bar of this servicing unit's hitch, while heavy pipe pins toggle together truck frame and anchorage thru turnbuckles which permit adjustment to take up slack and give steady support to the truck-mounted pulling equipment. The entire anchoring equipment is readily stowed and moved on the truck between wells.

AMERICA'S WEALTH...



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Drilling Meets PAW Demands

Completions average 448 per week, compared with 438 in February and 393 in March, 1944

AS IN most other years, March brought some expansion of drilling. Completions of wells in the United States averaged 448 per week, compared with 438 weekly in February and 393 weekly in March last year.

In the first quarter of this year, comprising of 13 weeks ended March 30, there were 5624 completions of all classes. This was an increase of 12.6 percent over the 4996 completions in the first 13 weeks of 1944.

So far this year, therefore, there has been a very close fulfillment of the volume of drilling sought by the Petroleum Administration for war. That agency called for a 12.5 percent increase this year over last year's drilling, having set the goal at 27,000 wells compared with the approximately 24,000 programmed and actually drilled in 1944.

Varying Trends

The gain of about 12 percent in completions this year over last year is the net result of rather widely varying trends for the different states and districts. As contemplated in the plans for development, there have been relatively large increases in completions in PAW District 3, while there have also been above-average gains in some other areas, including Oklahoma. Several states and districts, on the other hand, have had fewer completions than last year.

For Texas as a whole, completions in the first quarter of 1945 were 37 percent more numerous than in the like period last year. That same increase was registered by West Texas, and gains for

■ CONTINUED ON PAGE 56

U. S. Completions 12.6 Percent Above Last Year for First 3 Months

(Figures compiled from weekly reports of editorial men, with following exceptions: Illinois from Illinois Geological Survey; Indiana from Indiana Division of Geology; Missouri from Missouri Geological Survey; Allegany, New York, Bradford and Kane-Clarendon, Pennsylvania, from the Producer's Monthly; Tennessee from Tennessee Division of Geology.)

State or District	MONTHLY COMPLETIONS: Details for March: New Wells *Oil	Gas	Dry	Others[6]	Old Wells Deepened	Total Completions: Mar., 1945[1]	Feb., 1945[2]	Mar., 1944[2]	Total Footage March, 1945	CUMULATIVE COMPLETIONS: First Three Months — Details, January-March: New Wells *Oil	Gas	Dry	Others[6]	Old Wells Deepened	Total Completions: Jan.-Mar. 1945[4]	Jan.-Mar. 1944[5]	Percent Change	Total Footage 3 Months 1945	RIGS IN OPERATION — Details for March 31, 1945: Drilling	Rigs Up	Shut Down	Total: Drilling and R. U.: Mar. 31, 1945	Feb. 28, 1945	Mar. 31, 1944
Alabama			1			1			3,420			4			4	2	+100.0	18,890	7		2	7	3	4
Arizona								1								2								3
Arkansas	3		3			6	8	16	36,217	11	1	15		1	28	43	— 34.9	105,248	26	3	7	29	23	27
California	142	3	26		1	172	139	146	686,135	431	7	64		5	507	431	+ 17.6	2,060,135	230	46	15	276	360	388
Colorado							2	4		5		2			7	8	— 12.5	36,890	16	4	4	20	17	9
Florida			3			3			25,641			4			4			34,349	3	1		4	6	1
Georgia							1					2			2	1		8,922	2		1	2	1	1
Illinois	47		40		11	98	132	116	289,914	211		135	2	49	397	379	+ 4.7	901,958	118	15	36	133	148	155
Indiana	6	2	13			21	27	19	36,642	21	4	44		1	70	78	— 10.3	124,554	16	5	20	21	24	26
Iowa												1			1	2	— 50.0	1,250	1			1	1	1
Kansas	70	7	49	2	7	135	83	127	438,355	151	25	150	2	16	344	437	— 21.3	1,103,916	223	19	27	242	240	240
Kentucky	9	5	8			22	38	38	41,702	45	21	52			118	144	— 18.1	235,939	10	6	20	16	24	58
Louisiana	39	1	22			62	62	48	520,082	133	15	63		2	213	145	+ 46.9	1,751,060	181	9	27	190	183	150
North	8		3			11	17	13	58,590	28	11	28			67	43	+ 55.8	338,187	60	4	24	64	58	43
South	31	1	19			51	45	35	461,492	105	4	35		2	146	102	+ 43.1	1,412,873	121	5	3	126	125	107
Michigan	18	1	21			40	44	35	107,698	70	3	87			160	135	+ 18.5	442,536	70	29	31	99	109	93
Mississippi	17	2	13			32	23	10	211,216	48	3	39			90	24	+275.0	611,913	54	10	9	64	58	39
Missouri			2			2	2		2,185	2		8			10	3	+233.3	20,018	7	1	2	8	4	7
Montana	12	4	1			17	17	17	55,327	30	6	11			47	60	— 21.7	136,160	49	3	5	52	36	55
Nebraska			1			1	1		2,762			2			2	7	— 71.4	7,018	1		1	1	1	1
New Mexico	26	3	9			38	35	42	138,631	81	3	39		1	124	105	+ 18.1	448,024	85	6	5	91	100	79
New York	43			24		67	63	92	90,047	122		2	68		192	290	— 33.8	255,358	64	9	16	73	61	106
North Dakota																								2
Ohio	11	25	19			55	57	53	146,187	41	64	71			176	193	— 8.8	472,521	149	21	37	170	160	188
Oklahoma	113	3	49		3	168	184	108	810,534	350	25	155	9	13	552	352	+ 56.8	2,412,773	457	26	66	483	490	428
Pennsylvania	115	13	4	103		235	226	206	400,586	325	42	7	282	5	661	660	+ 0.2	1,113,285	227	35	53	262	251	242
South Dakota																								2
Tennessee																3								6
Texas	336	54	139	5	12	546	519	412	2,505,448	966	159	528	16	24	1,693	1,231	+ 37.5	7,663,428	1,171	73	117	1,244	1,262	854
E. Tex. Border	1	8	2			11	7		74,347	1	13	6			20	4	+400.0	135,297	29	1	2	30	31	8
E. Tex. Field																1			1			1		
Rest of E. Tex.	7	1	4			12	13	22	91,014	23	3	20		1	47	67	— 29.8	319,496	47	4	9	51	52	51
North Texas	49	1	43	5	2	100	103	112	243,336	193	4	159	16	3	375	287	+ 30.7	917,174	148	14	9	162	143	128
West Central	14	3	13		2	32	34	26	78,902	34	8	45		2	89	89		244,448	88	1	41	89	83	53
West Texas	118	1	22		4	145	153	119	672,719	346	1	99		10	456	333	+ 36.9	2,156,946	456	17	33	473	492	374
Panhandle	17	27	5			49	38	16	153,012	49	82	11		3	145	44	+229.5	442,234	110	23	9	133	139	42
Upper Coast	46	3	12		2	63	51	24	431,186	108	13	47		3	171	103	+ 66.0	1,243,624	93	3	1	96	106	72
Lower Coast	53	8	22		1	84	76	50	533,500	142	28	78		1	249	195	+ 27.7	1,602,550	118	7	7	125	136	88
Southwest	26	2	10		1	39	39	34	168,762	60	7	52		1	120	86	+ 39.5	491,909	63	3	2	66	47	33
South Central	5		6			11	5	9	57,670	10		11		5	21	22	— 4.5	107,750	18		4	18	33	10
Utah																								2
West Virginia	4	44	10		4	62	62	65	175,253	10	137	26		11	184	223	— 17.5	478,965	62	10	15	72	71	48
Wyoming	8	1	1			10	19	15	40,460	30	1	7			38	38		176,937	55	9	19	64	62	57
Total U. S.	1,019	168	434	134	38	1,793	1,744	1,570	6,764,442	3,083	516	1,518	379	128	5,624	4,996	+ 12.6	20,622,047	3,284	340	535	3,624	3,695	3,273

* Includes distillate wells. [1] Wells completed in 4 weeks, or 28 days, ended March 30, 1945. [2] Wells completed in 4 weeks, or 28 days, ended March 28, 1944. [3] Wells completed in 4 weeks, or 28 days, ended March 3, 1945. [4] Wells completed in 13 weeks, or 91 days, ended March 30, 1945. [5] Wells completed in 13 weeks, or 91 days, ended March 28, 1944. [6] Water input, gas injection, and salt water disposal wells.

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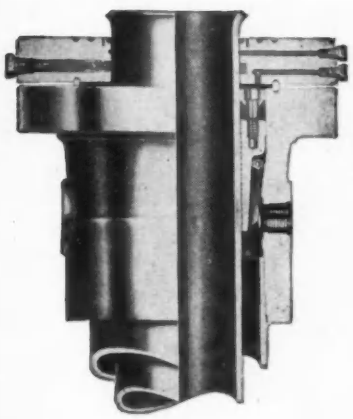

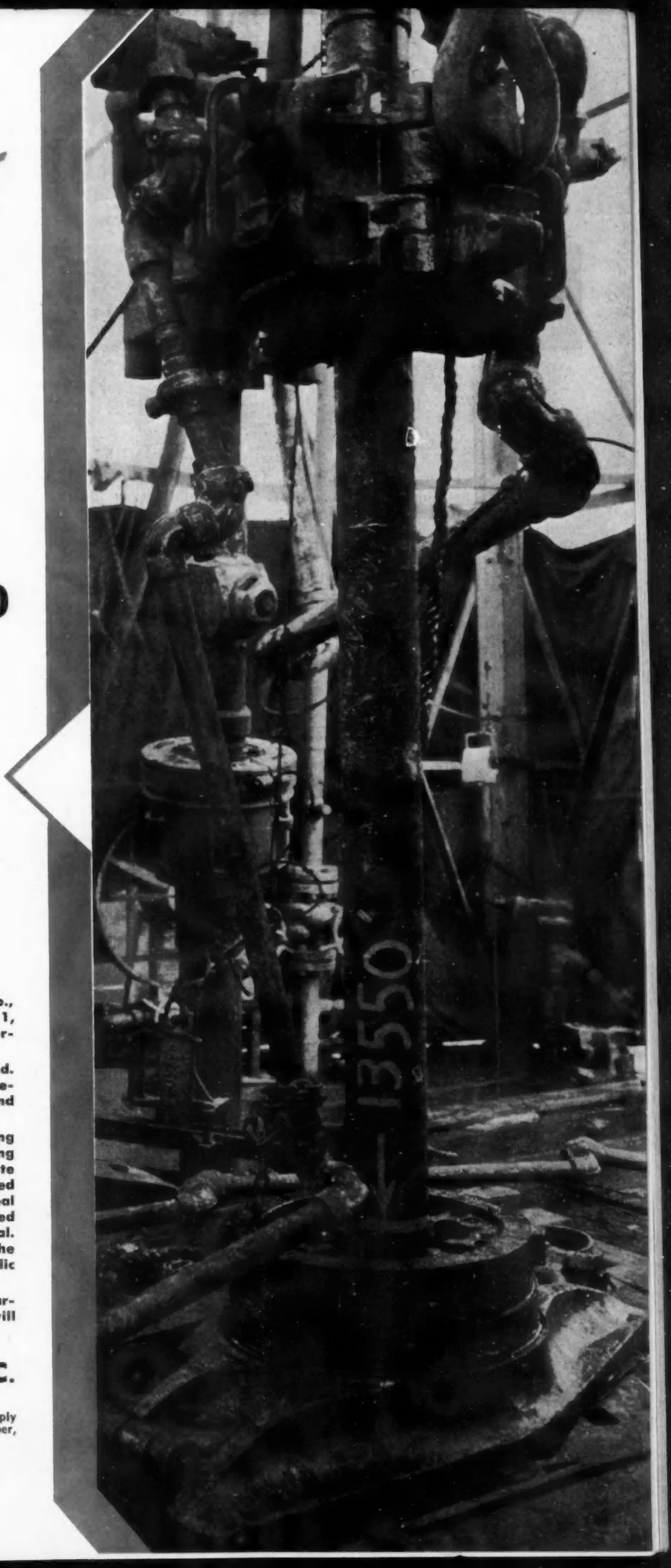

On February 22, 1945, 13,550' of 7-inch o.d. casing (32-lb., 29-lb., and 26-lb. Grade N-80) was set in Smith-State No. 1, a wildcat in Iberia Parish, Louisiana. Total weight, corrected for bouyancy, was 329,000 pounds.

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Brine Baths for Dirty Wells

Salt brine is effective and diversified agent for helping operators obtain objective of a clean well

By F. R. COZZENS

ONE problem likely to cause persistent headaches among secondary oil recovery operators is that slimy grey residue known as "floating sand" which invariably appears after wells have been pressured over a period of time.

This substance is composed primarily of the cement-like binding which holds the sand particles together, and is released by friction of air or gas being forced through the capillaries of the sand body. Filtering into a well, it unites with gypsum, paraffin, and similar agents to form a kind of sludge, parts of which rise to the surface of the fluid column, while other parts settle into a compact mass at the bottom of the well.

This bottom-hole sediment generally gives the first indication of trouble by cutting out cups, clogging tubing and standing valve, necessitating frequent pulling. The floating mass, however, is much more serious, since it plasters and adheres to the sand-face with the rise and fall of the fluid column during the normal course of pumping, forming a soapy film, impervious as paraffin and much more difficult to remove.

It was formerly thought that salt water had considerable to do with the formation of floating sand since greater quantities of this residue were noticed in wells producing both salt water and oil. It was further pointed out that similar effects could be brought about by inducting brine into oil wells which had previously produced no water.

Field practice has long since disapproved this theory. The true explanation, as we know is that because of its density, salt water has the ability to hold floating sand in suspension so that greater quantities can be pumped or bailed out. Thus, instead of a cause, salt water is rather a remedy, helping the dirty well to expel its residue.

Brine As Cleaning Fluid

This fact is now being put to a very practical use by eastern stripeer field operators who are using concentrated brine as a cleaning fluid in re-conditioning old wells. Not only is brine one of the most effective fluids known for the removal of floating sand, but when combined with other cleaning agents it proves an auxiliary aid in the removal of paraffin, gypsum, mineral deposits and sludge. The formula generally consists of 100 pounds salt (granulated preferred) to one barrel (80 gallons) of fresh water. The brine is mixed on the job, used either hot or cold, or blended with other agents as the need justifies.

Where wells are pumped daily, and not too dirty, it is possible to do an emergency cleaning job with brine without the use of cleaning-out tools. A metal tank, 50 to 100-barrel capacity is necessary, preferably with a heating unit underneath. The well to be treated is pumped dry as possible. Tubing is removed, and replaced with a like number of feet of one-inch line pipe, plugged at the bottom end. The bottom section is well perforated on all sides from near the base, up to within a foot or two of the top of the sand. Outer end of the pipe is connected by valve to the bottom of the tank.

The tank is filled, or partly filled (as the need requires) with fresh water and salt. While the mixture is being stirred or agitated, the heating unit is lighted, and at, or near the time when the fluid reaches the boiling point, the tank valve is opened so as to permit the hot brine to escape down the jet line. Unless the well has an unusually large shot hole, the brine jets from the perforated pipe with force sufficient to wash film from the sand-face, up and down its entire length.

Slime and Wax Removed

When the supply of brine in the tank recedes to a point which indicates that the perforated section of pipe is inundated, the valve is closed. The jet line is then pulled out, tubing returned, and the well pumped vigorously until the shot hole is emptied. Much of the slime, wax, and residue cut from the sidewalls remains in suspension in the brine and is pumped out with it.

The process invariably makes re-pulling of the tubing necessary in order to clean out the working barrel and to replace worn cups, but the operator is generally rewarded with a cleaner sand-column through which oil flows more readily into the well, and there are no detrimental after-effects. This type of treatment is used mainly to "freshen-up" wells in areas where low pressures are maintained, and especially wells which have not had excessive shots of nitro-glycerine.

In areas where salt water is abundant, 25 to 50 percent less salt is required for making brine which affords a modest saving in first cost. Operators usually mount the brine tank on skids so it can be moved easily from well to well, and in lieu of a heating unit, wood or coal is often used underneath the tank to warm the fluid.

Where wells are being reconditioned for pressuring, it is always advisable to use a string of light cleaning-out tools as a part of any type of treatment. Brine can still be inducted by jet pipe, and further agitated in the shot-hole by drill after the pipe is removed. This stirs up, and brings into suspension considerable bottom-hole sediment which escapes a jet wash. Since the brine is of greatest density at that point, more of the residue is brought within range of the bailer. A general practice is to add a bailer of new brine for each bailer of fluid taken from the shot hole. By taking the fluid off bottom each time, plus intermittent stirring with the drill, a much more effective cleaning job can be secured.

Use of Agitator

A commercially-made agitator which is attached to the drill, between the stem and the bit, works well with brine washing. This tool draws fluid from the shot-hole into a piston-type barrel and jets it in all directions with considerable force against the walls of the shot-hole, at each upward and downward stroke. It works equally well in either straight bore, or bellied-out shot holes, and is especially suitable for aged wells where side-wall residue is thick and tough. If an air compressor is available on the property, it is often customary to wash old wells by partly filling the shot hole with brine, then forcing air down a jet line for ten to twelve hours, with all the pressure the pipe will stand. This period of agitation is followed by vigorous bailing until the shot hole is dry.

Solvent, Then Brine

Brine, as a basic cleaning fluid, provides no chemical action against gypsum, paraffin, or wax. Its purpose in the well is to hold these deposits in better suspension so that greater quantities can be bailed or pumped out. For this reason, the majority of operators prefer to use a solvent in the regular manner, then follow up with a brine-wash of the shot-hole after the solvent and its burden have been removed. This action is especially desirable after the use of hydrochloric acid, carbide, lye, and similar agents which leave a sludge.

Light shooting with nitro-glycerine or gelatin often plays a part in the reconditioning of wells, and here again,

POWER TO WIN

ARMY E NAVY

Awarded to the Detroit and Muskegon Plants of Continental Motors Corporation for High Achievement

Dependable power and long life are two of the most essential requirements of internal combustion engines in oil field operations.

The truth of this statement has been proved many times during the past few years when new engines or even replacement parts have been unobtainable.

Only those construction and operating programs which at the very beginning specified the finest equipment have been able to function without costly breakdowns. Engineers and contractors have learned that Continental Red Seal Engines give the dependable and long-life power — the Power to Win — needed in their operations.

Your Dollars are Power, Too! Buy War Bonds and Keep Them!

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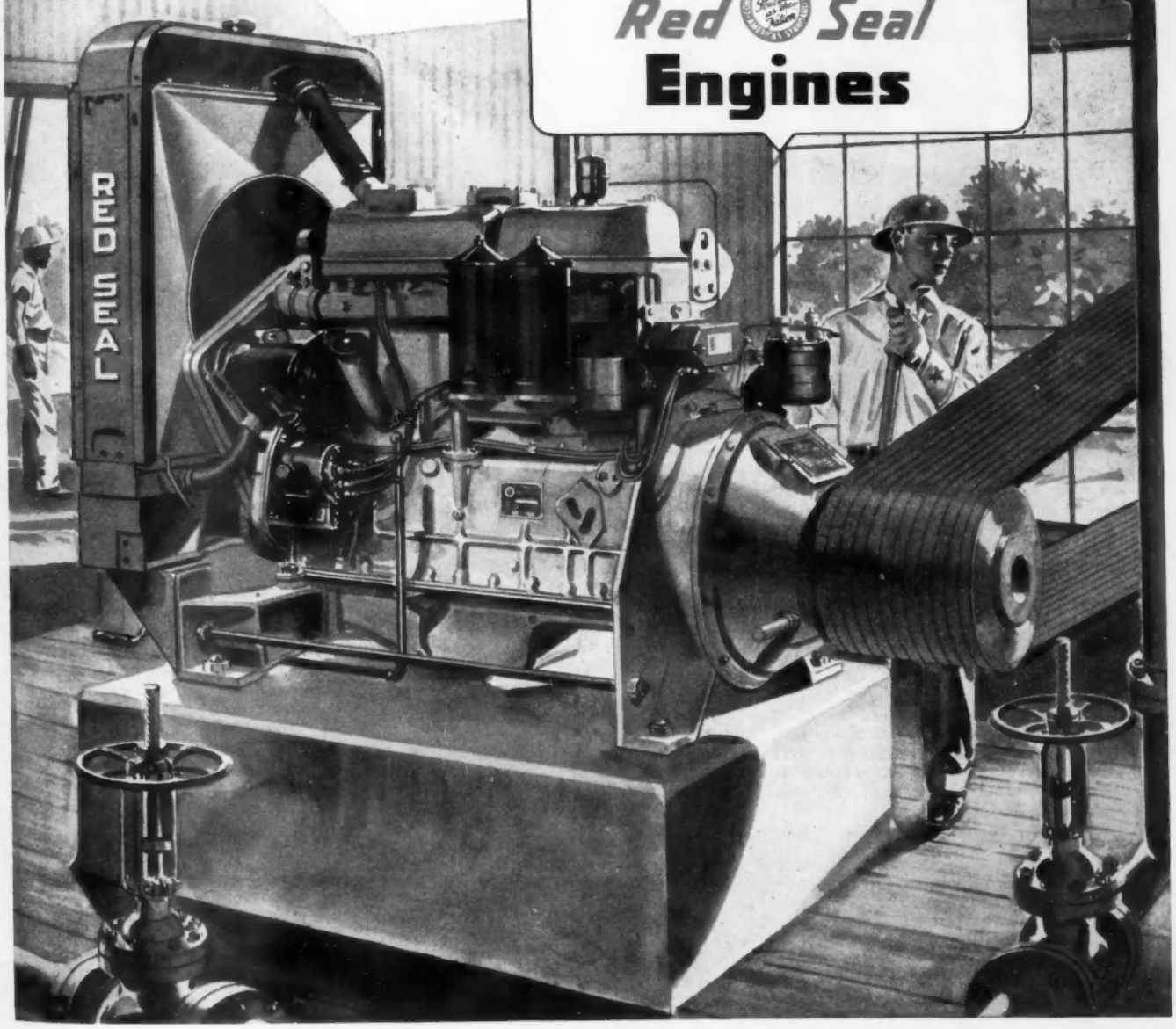
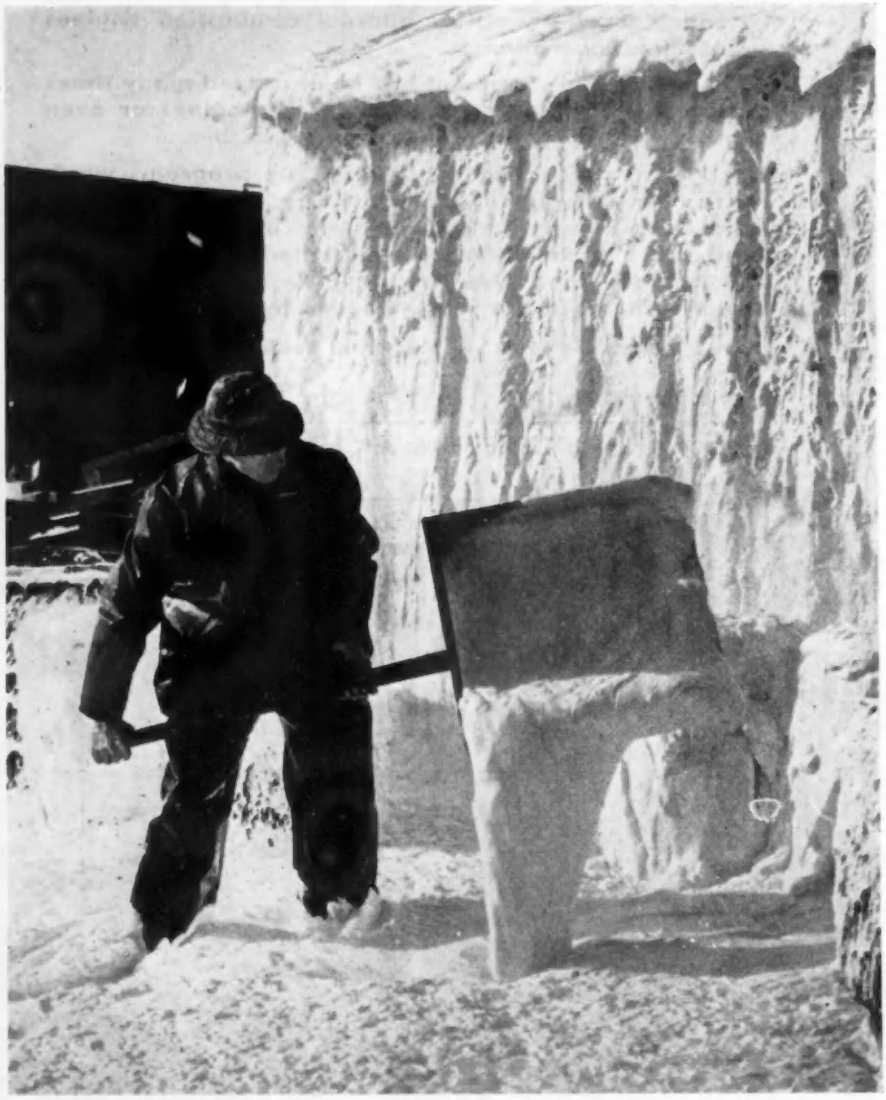
Continental Motors Corporation
MUSKEGON, MICHIGAN

Continental Red Seal Engines



Navy's "Bean Soup" Smothers Fires



Resembling luscious whipped cream, the Navy's fire-fighting "bean soup" smothers even the toughest fires at sea or ashore with a thick blanket of foam derived from mixing a special liquid made from soy beans with water and air. Five-gallon can of liquid produces nearly 900 gallons of airfoam which flows freely, yet sticks to vertical surfaces as well as flat areas. The foam is particularly effective in combating petroleum and chemical fires.

a brine wash proves of value in removing foreign materials likely to interfere with the process. Far better results from the explosives are obtained by washing out the shot hole before shooting to prevent accumulated deposits from being blown into the sand-face, and again after shooting to remove residue which has been blasted loose. Because of a certain amount of precipitation of salt, the freshly shot sand surface is left more receptive to incoming oil and is much less likely to become crystalized.

Use In Well Conditioning

Oil men have long been accustomed to the beneficial effects of salt water in stiffening the side-walls of a newly drilled well, so that treacherous formations could be drilled with less danger from cavings. This knowledge comes again into practical use when in well-conditioning it proves necessary to raise, or change a casing point in formations likely to cave. A very dense (cold) brine is poured into the well until the shot hole is filled completely, and the fluid column extends 100 to 300 feet up in the casing. Work proceeds with block and lines or other equipment until the casing has been cemented or seated at the desired point. The brine is then bailed or pumped out, usually with very little residue resulting from cavings. Packers can often be seated in this way without the risk of costly pipe-pulling.

Secondary oil recovery schedules are being improved constantly through field practice and laboratory means and research. A primary objective in all cases however, is a clean well, both at the beginning, and through the continuation of production. Salt brine is an effective and diversified agent for helping operators attain this objective. It is economical, easy to use, and can be put into action with ordinary equipment, commonly found on every oil field job.

Completions Gain

■ CONTINUED FROM PAGE 52

other districts included those of 31 percent for North Texas, 66 percent for the upper Gulf Coast, 28 percent for the lower Gulf Coast, 40 percent for Southwest Texas. The Texas Panhandle has had over three times as many completions as last year. But Eastern Texas and South Central Texas have had fewer than a year ago.

Mississippi had nearly four times as many completions in January-March, 1945, as in the like period last year. Louisiana showed a 47 percent increase, with both the northern and southern districts close to that state figure. New Mexico's gain over last year was 18 percent. Arkansas fails to share in the general trend for District 3, having had one third less drilling this year than last year.

Oklahoma has been exceptionally active this year, having registered 552 completions in the first 3 months, against 352 last year, an increase of 57 percent. Kansas, in contrast, has had 21 percent less drilling than in 1944. Illinois shows a 5 percent increase, Indiana a 10 percent decrease, Kentucky an 18 percent decrease, and Michigan an 18 percent increase.

California has not had as large an increase in drilling as would have been desirable but does show a gain of 18 percent over last year.

In the Rocky Mountain region, there has been a little less drilling than last year. Wyoming has had the same number of completions, but decreases are shown for Colorado and Montana.

Other Declines

In the Appalachian states, too, 1945 has brought less drilling than 1944. Pennsylvania has had practically the same number of completions as last year, but decreases are recorded in West Virginia, New York, and Ohio.

At the end of March, 1945, there were somewhat fewer active drilling operations than at the beginning of the month although about 10 percent more than on March 31, 1944. Apparently, there has been finally a settling down to a fairly uniform basis of efficiency in drilling which is decidedly below prewar standards, because of the wartime shortages of materials, equipment, and qualified workers. For as brought out above, completions have run about 12 percent higher than last year while rigs in operation are about 10 percent more numerous than a year ago. It is noteworthy in this connection that the number of rigs now employed is well above prewar, while the rate of completing wells is considerably below prewar.

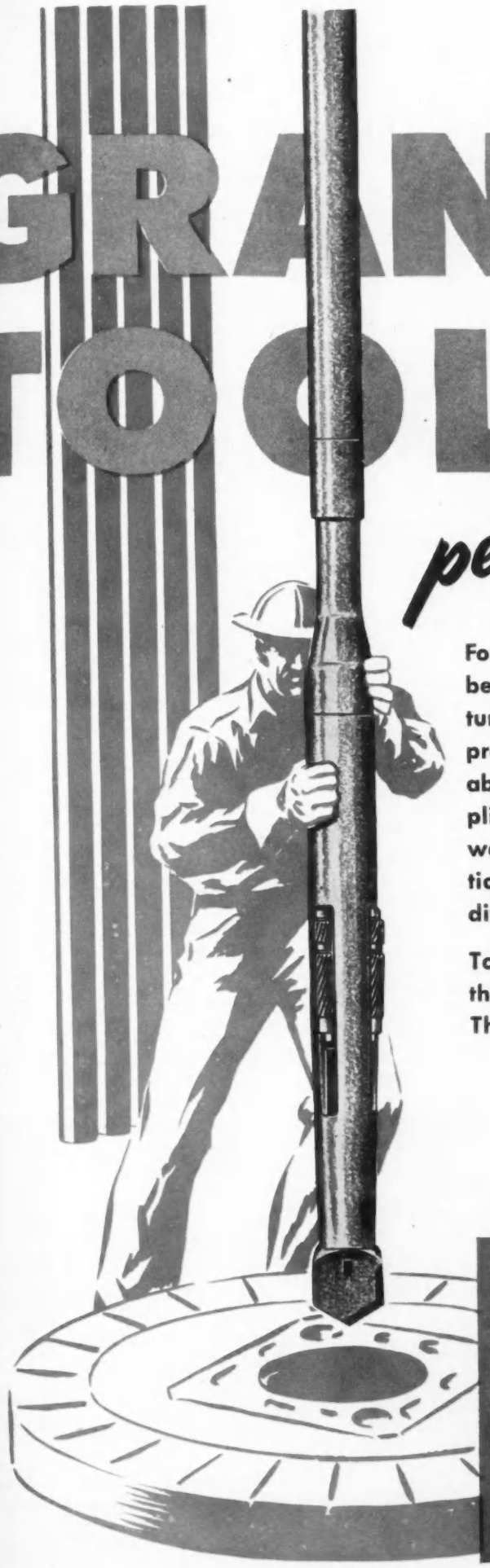
Youngblood Named

Appointment of Richard A. Youngblood as chief of the gasoline rationing branch, succeeding Quentin W. Regestein, was announced April 3 by OPA. Regestein has returned to the Socony-Vacuum Oil Company as division manager of the New York City division.

Youngblood, who joined OPA in March, 1942, was formerly engaged in merchandising and distribution in the appliance industry.

GRANT TOOLS

Used where performance counts



For more than a quarter of a century GRANT has been a leader in the development and manufacture of tools for the oil industry. Each GRANT product embodies all the elements that produce absolute dependability—functional design, simplicity, extra ruggedness, fine materials, careful workmanship, efficiency and economy of operation, and complete adaptability to all well conditions—at home or in foreign fields.

Today's GRANT Tools are better than ever. To get the job done right, the first time, use GRANT Tools. They are a guarantee of complete dependability.

Bailers • Perforation Cleaners • Hole Enlargers • Liner Pullers • Reamers • Shale Bits • Underreamers • Wall Scrapers • Mud Pump Safety Automatic Pressure Releases

For details on GRANT Products write for information or see the GRANT Section in the Composite Catalog.

GRANT

OIL TOOL CO.

2042 E. VERNON AVE. • LOS ANGELES 11

PIPE LINE HINTS

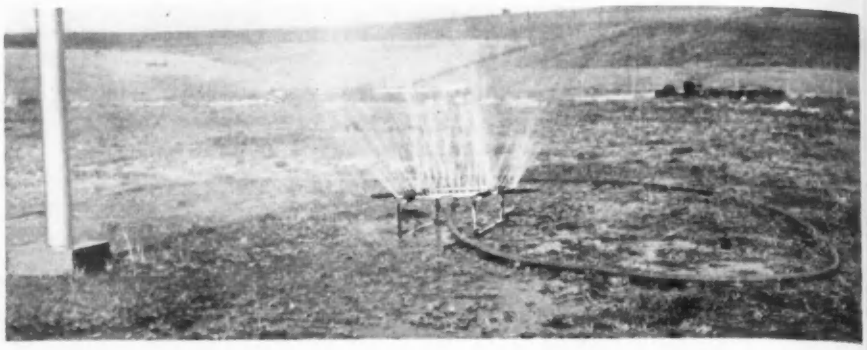
Sled-Type Pipe Frame, With Upper Tubes Perforated, Serves as Sprinkler

YARD EQUIPMENT

Beside adding to the appearance of a station site, sodding the yard aids in keeping down dust which, if allowed to blow into the station, quickly wears crosshead and plunger guide slides, as well as requiring more frequent cleaning of the equipment. One station encouraged the growth of grass in the station yard by welding up a sled of light scrap pipe, with a connection to which the yard water hose could be attached. The upper side of the top of the sled frame is perforated with many small holes, the assembly providing a good flow of water in spray so fine that it does not tend to wash out the grass seedlings.

The sections of pipe forming the base or runners of the sled have the ends rounded so that the device can be shifted across the yard as desired, simply by pulling on the hose and dragging the unit to its new site.

Since the reaction of the many sprays tends to force the sled runners into the soft ground, it is sometimes found advisable to cut off the flow of water to the sprinkler when shifting to a new, and drier, area.



If the hose connection be placed at the end of the sked or skid, no other attachment is required for shifting the unit around the yard.

$5.00 is paid for each illustrated acceptable contribution. Mail to The Editor, THE OIL WEEKLY, P. O. Box 2608, Houston 1, Texas

Split Drum With Hinged Upper Section Stores Mops

STATION HOUSEKEEPING

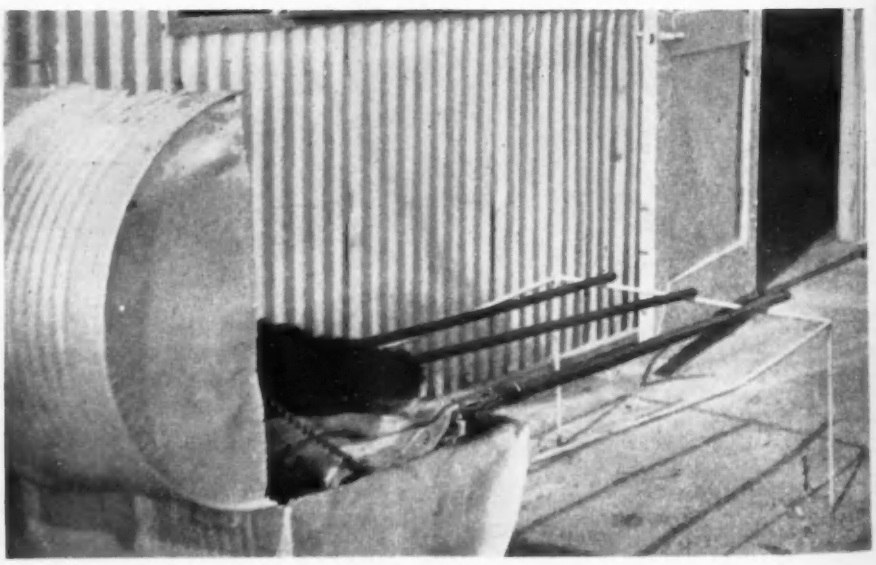
Mops and swabs are an indispensible part of the station's housekeeping equipment, as frequent mopping is the only method found whereby the film of dust on the floor and its cementing admixture of oil spray can be removed. Swabs are also necessary in case of oil leak or spillage, even if a convenient system of floor drains does permit most of the runoff to be diverted to the yard sump.

One station provides a convenient spot for storing the mops and swabs by splitting a 20-gauge steel drum from end to end, and then joining the two parts with hinges. One half of the drum is held in place with a light steel frame, extensions of which serve as support for the mop handles. Small notches cut into the matching edges of the two drum halves accomodate the handles and permit relatively tight closing of the unit.

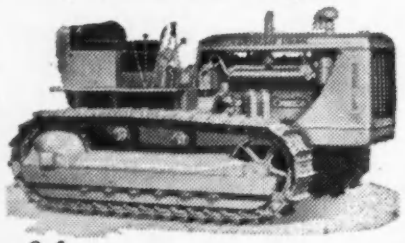
Ample space is provided in the lower half of the device for any liquid which may drip from the mops, it being easy to swab out the accumulation from time to time and thus to prevent the accumulation of sludge or fire hazard.

A short piece of chain, attached to both halves of the drum, serves as stop to check the swing of the upper half after it has reached the vertical, and thus prevents breakage of the hinges which might occur were the cover allowed to swing back against them.

Insurance against tilting of the mops, or canting over into what fluid may have collected in the base, may be obtained by welding a series of short hooks along the upper side of the outer support cross arm, under which the ends of the handles may be slipped when placing the mops across the edge of the container. If the receptacle be stored out-of-doors, a small drain hole keeps the unit clear of drippings.



For Power Plus Performance on Pipe Line Projects



Use

CATERPILLAR TRACTORS

Caterpillar Equipment has "been in the army" for the past three years, both at home and on foreign fronts; helping to build the world's greatest, most important pipe lines. Tractors, Engines and Electric Sets have proved their superiority and dependability.

SOUTHWEST MACHINERY CO

Your Caterpillar Distributor in the Heart of the Mid-Continent. Sales and Service

OKLAHOMA CITY TULSA

With this New Clutch

YOU CAN SAVE

1. Space
2. Maintenance
3. Repair Cost
4. TIME

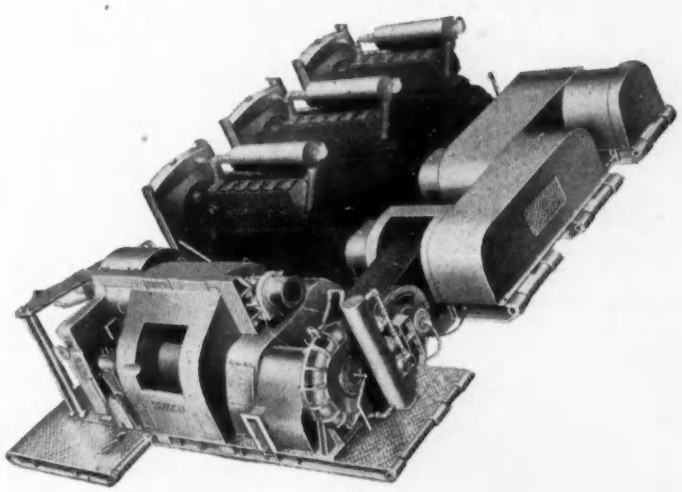
The FAWICK Airflex Clutch

1. **Saves Space because it is compact and requires no springs, arms or toggles. It controls power by air.**
2. **Saves Maintenance because it requires no adjustments, no lubrication. Even corrects automatically for misalignment.**
3. **Saves Repair Costs because there are no parts to break or wear out. Has torsional flexibility—absorbs shocks and vibration.**
4. **Saves TIME because it permits dependable *full-time* operation, in the heaviest service.**

• • •

The Fawick Airflex Clutch has proved its performance in hundreds of Naval vessels under combat conditions—and for heavy-duty drives throughout industry.

Ask our Engineering Department for recommendations.



This up-to-the-minute rotary drilling machine has **ELEVEN** Fawick Airflex Clutches. They introduce new economy of operation—protect against shocks and vibration—ease sudden starts and stops—cut maintenance costs.

FAWICK AIRFLEX COMPANY, INC. • 9919 Clinton Rd., Cleveland 11, Ohio

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FAWICK *Airflex* CLUTCH

POWER CONTROLLED BY AIR

Call Us for Pipe-Line Equipment and Supplies

INTERNATIONAL ENGINES
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PIPE HOOKS
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Clarence L. Boyd Co.
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Trenching it's BUCKEYES

They dig trench in any soil with the kind of speed that is helping our nation out of a crisis. The tough, compact Model 11, smallest of the Buckeye Pipeliners, for small crude lines and gasoline and natural gas lines. Model 12 for medium lines; Models 32 and 48 for main lines.

BUCKEYE TRACTION DITCHER COMPANY
Findlay, Ohio
Built by Buckeye
TRENCHERS, SHOVELS, CRANES
BACKFILLERS, TRACTOR EQUIPMENT

Slotted Walkway Drain Protects Open Station

BUILDING DESIGN

To prevent the accumulation of gases or fumes which might form an explosive mixture or render the station atmosphere toxic to the crew, many pump stations in the Gulf Coast area are built with at least one side open to the air or with a section on which panels may be removed except during most inclement weather. Such open sides present a problem in checking the entry of rain, and of draining out any water which may reach the working area.

One plant halted water entry by building a concrete walk with baffle or check wall on the inner side, this baffle being some 6 inches in height, and cast integral with the concrete of the walk. A drain to carry away water reaching this walk—instead of allowing it to accumulate adjacent to the building and perhaps soften foundations there—is built in the walk, and covered with steel floor plates resting in recesses cast into the concrete. To provide ready drainage to this trough, transverse drainways are formed in the concrete by placing on the surface of the still green mixture short sections of 2-inch material, so positioned that a sloping groove or slot is formed which extends nearly half way across the walk area. The slots are stopped short so that a wheelbarrow may be rolled down the walk without passing over the ends of the drain sections.

The baffle wall is carried around all of the equipment pits, and thus serves to divert waters which may flood the station site.

Wall Rack Readies Station Emergency Tools

HAND TOOLS

Keeping shovels and scrapers handy within the station aids in maintaining the housekeeping of the interior, and provides equipment which may be had with minimum delay in case of emergency. One station provides a rack, attached to the junction of adjoining panels of the steel building, in which the tools are stored. The base of the device is a strip of steel, bent to form a letter "D" and with the flat side attached to the wall. Two pips or projections are welded to the upper side of the strip to form retainers behind which the shovel is placed. Sets of paired pips also retain the broad, flat blade of the station hoe, holding it clear of the shovel so that that instrument may be jerked clear of the holder without disturbing the hoe.

At the proper height on the panels, a strap iron is bolted across the uprights, carrying in its center a long loop of bar stock. The handle of the shovel or hoe is first inserted into this loop, and the blade then set onto the support. In this manner the tool is prevented from canting, and the units are stored in an orderly manner.

To keep the tools in condition and guard against rusting, they are washed, dried, and rubbed with a rag dipped in light oil before being replaced in the rack. Accumulated dust is wiped from the surfaces and oil applied frequently.

FOLLOW THE LEADERS TO *Silverlink*

MOST DEPENDABLE OF ROLLER CHAINS

● There's nothing soft about the chain job of drilling rock below two miles, spudding balled-up gumbo, backing up and kicking off with nearly 100 tons of drill pipe, pulling out and running in at high speeds. Yes, oil field chain catches hell, at best.

It's sound reason that so much Link-Belt Silverlink Finished Steel Roller Chain is used on internal combustion engine powered drilling rigs. Many operators have standardized on Silverlink on all rigs of this type because Silverlink has kept them out of chain trouble on their toughest jobs. Silverlink is the result of 70 years of continuous chain research and improvements for your safety, efficiency and economy. Demand Silverlink. It is available at most supply stores.

LINK-BELT COMPANY

Indianapolis 6, Dallas 1, Houston 2,
Los Angeles 33, Kansas City 6, Mo.,
New York 7, Toronto 8.

*In cooperation with the government conservation program, Silverlink roller chain is now furnished in a durable "blackout" finish.

9384

LINK-BELT
Silverlink
ROLLER CHAINS

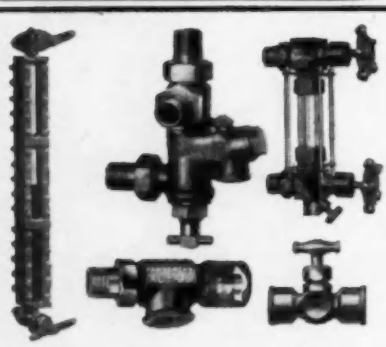
Drum Serves as Gauging Tank for Determining Limited Flow Output

STRIPPER WELLS

Contributing much toward improving the operating efficiency, through the ascertaining of correct engineering information, of small stripper wells which average no more than a barrel or two a day, one company sets up a previously-calibrated drum beside the well head into which can be diverted the flow of oil from the well for any desired interval. A tee is placed in the lead line near the well head, one leg connecting into the lead line while the other terminates in a valve into which may be screwed a fitting attached to a short rubber hose. When the well is to be gauged, a plug valve in the lead line is closed and the production turned into the barrel. Since it requires from one-half to one day to fill the barrel, no special watch need be maintained over the well. Upon termination of the test, or at such time as the barrel becomes full, whichever comes first, a spigot in the bottom of the barrel is opened and the oil allowed to drain back into the casing through a special fitting attached to the casing outlet. To the regular 2-inch casing fitting is added a 2-to-4-inch swage, then an up-turned 4-inch tee. The outer line end is plugged while the up-turned opening serves as a funnel into which the oil can easily drain.

This system of gauging is much more accurate for taking short gauges than is the tank method where difficulty ordinarily is experienced in reading the last ¼-inch on the gauge stick and which may spell the difference between a good and bad test. The set-up cost is practically nothing since no special equipment is required and there is nothing lost due to being able to drain the accumulated oil back into the casing, the small volume of fluid being pumped back to the surface and out the lead line in only a few hours following termination of the test. Careful measurement and draining of the fluid levels in the drum also will permit getting a good check on water cut of the well's production.

PENBERTHY
QUALITY
PRODUCTS



Penberthy liquid level gages of various types—injectors—ejectors—all so widely used throughout the oil industry because they have always been dependable under the most severe service conditions.

All are of rugged construction and made by an organization with 57 years experience in the manufacture of quality products.

PENBERTHY INJECTOR CO.
DETROIT, MICH. Canadian Plant WINDSOR, ONTARIO

Leather Pad Pinch-Hits for Jack Bearing Metal

JACK PUMPING

In the California shallow stripper fields the well jacks in many instances have been home-made. Because he had no bearing metal available at the time, one operator tried a piece of leather belting in its place in the journal of a bearing and found the substitution to be as effective as the old metal bearings.

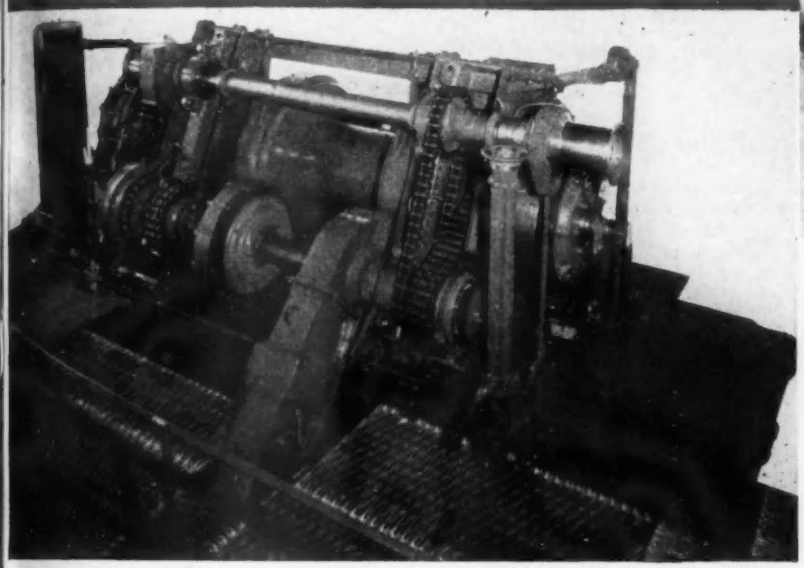
A piece of discarded leather belting was cut to size and placed in the journal in exactly the same way a metal bearing would have been poured in the journal. The leather was found to be superior in that it absorbed the lubricating oil poured on it and prevented the bearing from becoming dry in times of neglect. Because grit blown into the leather bearing seems to have no effect, the life of this type of bearing would appear to be longer than that of a similar metal bearing.

A bearing of the type mentioned above costs very little and has the added advantage of being easily replaced in the field without melting and pouring equipment.

$5.00 is paid for each illustrated acceptable contribution. Mail to The Editor, THE OIL WEEKLY, P. O. Box 2608, Houston 1, Texas

For the Deep Jobs...

EMSCO J-1250
POWER DRILLING RIG



Shown above is the Type J-1250 Drawworks, rear view from Driller's side, with guards removed.

Designed for the deepest drilling, the Emsco J-1250 Drilling Rig has little increase in weight and no sacrifice in safety factors over units of shallower depth ratings. There is no general use of more massive parts. It incorporates disc-type, air operated friction clutches, has 6 hoisting speeds, 3 rotary speeds, 2 reverse speeds to the drum shaft and 1 to the rotary. Its narrow width facilitates transportation.

The J-1250 is a smooth, easily handled and efficient drilling rig with many new features . . . the result of careful engineering detail plus the high quality of materials and workmanship common to Emsco equipment.

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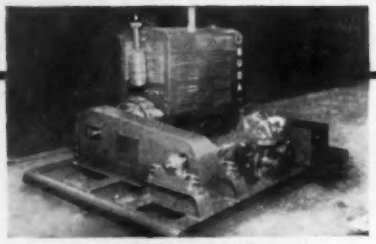
SERVING THE OIL AND GAS INDUSTRIES



ASSEMBLED UNITS ON SKIDS
built to Customer's Specifications

TOM NILAND Equipment Co.
PHONE C-4-4703 P. O. BOX 1453 HOUSTON 1, TEXAS

MANUFACTURERS OF: ASSEMBLED UNITS ON SKIDS • SAFETY MACHINERY GUARDS • PANEL BOARDS • STEEL PRODUCTS MADE TO THE CUSTOMER'S SPECIFICATIONS.

Clean Out with a MILLER Sand Pump

Refer to Composite Catalog page 1907 for description and prices.

Miller Sand Pump Co.
P. O. BOX 4516
OKLAHOMA CITY 9, OKLA.

IT'S GOT *Swing!*

UNIBOLT "Flexi-Ball" Joint swings 45° to relieve rotary hose of strain.

UNIBOLT
THE ONE BOLT COUPLING

THORNHILL-CRAVER COMPANY
HOUSTON

PRODUCTION HINTS

Throttle Extension Pad Improves Rig Control

SERVICING UNITS

Various types of remote-controlled throttles for the pulling unit have been devised by as many crew foremen, but most of them have one or more disadvantages, particularly when several crews may have to use the unit, and where the personal desire of one man may not suit that of the next. Some types consist of an arm that is moved by the operator's body; some are small levers that may be moved with the hand, while others are variations of treadles that may be operated with the foot. The type illustrated consists of a broad piece of flat sheet iron to which is hinged a smaller section that serves as the throttle-actuating treadle. A light chain extends up from the tip of the treadle to the foot throttle on the drawworks unit.

The advantage of this type lies in being able to set it up under almost any circumstances. All that is needed is a plank on which the base may be lightly tacked at two or three places and with possibly a minor adjustment of the throttle line. The base may be shifted to any position preferred by the operator, and in fact if no base plank is desired or available, it may be set anywhere on the ground, the operator standing with one foot on the larger base plate while operating the throttle with the other.

Best adapted to the ground-level type of derrick floor, this type of throttle nevertheless does not interfere with use of the regular foot throttle (to which chain is attached) when the unit is backed up to the customary derrick floor level.

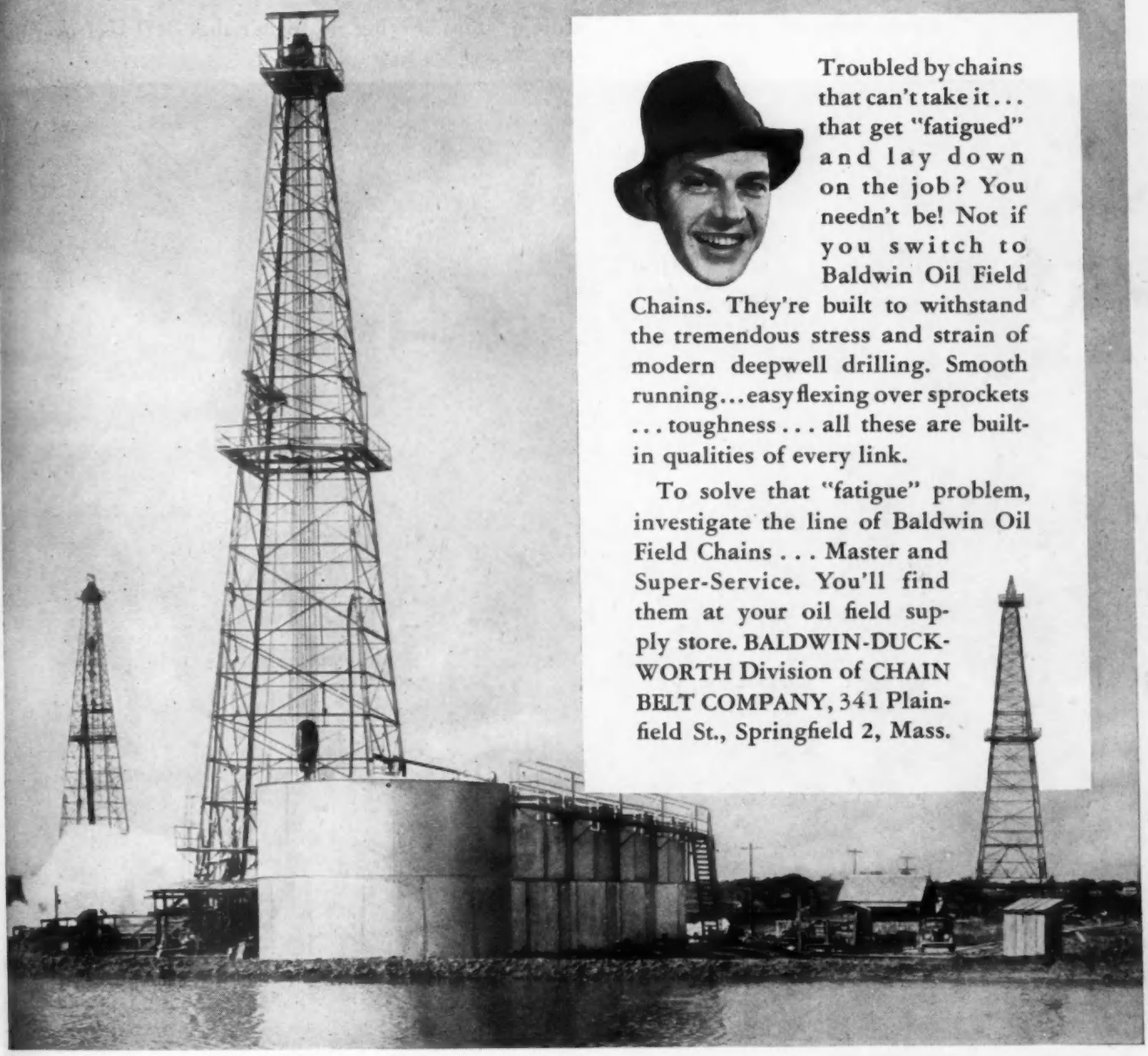
Individual Supports Protect Replacement Gauges

AUXILIARY EQUIPMENT

Rough treatment of spare pressure gauges in the pumper's truck may be avoided by use of a series of special racks mounted on any handy part of the tool box or other part of the truck. All-welded and designed to hold the largest gauge generally used in the field, the light sheet metal racks are made to accommodate half the total surface of the gauge, assuring little likelihood of their bouncing out while travelling over rough roads. When inserted face-toward the bulkhead, the gauge is likewise protected from accidental breakage of the glass.

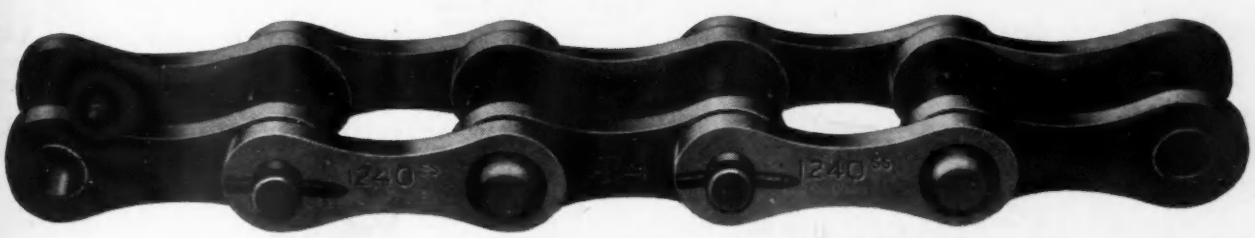
At the time the racks were installed, a small oil can holder also was mounted on the panel which keeps that article from becoming battered and next to useless as so many oil cans ultimately become when laid in the truck bed or stored inside a tool box. A shallow pan supports the oil can and a short steel spring slipped over the shoulder just below the spout securely holds the can in place, yet keeping it within easy arm's reach when needed.

Faced with a "Fatigue" Problem?



Troubled by chains that can't take it . . . that get "fatigued" and lay down on the job? You needn't be! Not if you switch to Baldwin Oil Field Chains. They're built to withstand the tremendous stress and strain of modern deepwell drilling. Smooth running . . . easy flexing over sprockets . . . toughness . . . all these are built-in qualities of every link.

To solve that "fatigue" problem, investigate the line of Baldwin Oil Field Chains . . . Master and Super-Service. You'll find them at your oil field supply store. BALDWIN-DUCKWORTH Division of CHAIN BELT COMPANY, 341 Plainfield St., Springfield 2, Mass.



Baldwin Super-Service 1030-SS . . . 66,000 Lbs. 1240-SS . . . 140,000 Lbs.

BALDWIN *CHAINS TRANSMIT ALL THE POWER*

Without Fail

It was early morning and raining lightly. The secret mission was ferrying two important Generals and their staff through enemy territory without fighter escort or guns. Flying no higher that 300 feet over the ocean to escape enemy detectors these AAF flyers completed their mission without fail on a flight whose details are still secret from the enemy.

No. 3 of a series of authenticated missions, the details of which are still a military secret.

Without fail Lufkin Pumping Units have been carrying out their important mission of pumping approximately 9,000,000 barrels of oil per year for such important missions. Attention to minute detail has made Lufkin not only dependable, but *the pumping unit of the oil world.*

ARMY-NAVY

LUFKIN PUMPING UNITS

LUFKIN FOUNDRY & MACHINE COMPANY • LUFKIN, TEXAS

Good Results Shown in Meeting Demand For Oils, But Residual Stocks Cut

Relatively favorable statistics resulted from operations of the industry in the week ended April 7. Crude production was up slightly to a new all-time peak and runs to stills increased a little. While production of gasoline and distillate fuel oil showed some declines from the previous week, the output of greatly needed residual fuel oil was increased, although not sufficiently to stop withdrawals from storage. Domestic production of crude at present, together with an apparently good volume of imports, has made it unnecessary to draw further on much-depleted stocks, which are now about 5,000,000 barrels above the low that they reached in early March. All these data indicate generally satisfactory results in meeting the continuing heavy demands for petroleum products

U. S. production of crude oil averaged 4,783,000 barrels daily in the week of April 7, up about 2000 barrels from the week before and 367,000 barrels a day or over 8 percent above the 4,416,000 barrels per day produced in the week ended April 8 last year. Runs to stills averaged 4,686,000 barrels daily, up 9000 barrels from the week before and 287,000 barrels a day or 6.5 percent above the runs of 4,399,000 barrels daily in the like week last year. Crude oil stocks stood at 223,782,000 barrels March 31, the Bureau of Mines reported, having increased within a week by 2,555,000 barrels, or an average of 365,000 barrels daily. In the preceding week they had increased 249,000 barrels daily. The latest total is 10,885,000 barrels below the 234,667,000 barrels held a year previously.

Production of gasoline was cut back in the week of April 7 by 57,000 barrels from the daily average of the previous week, having averaged 2,035,000 barrels per day. This rate was nevertheless 162,000 barrels a day or 8.6 percent above output in the corresponding week a year ago. These figures include natural gasoline blended at refineries, as well as straight run and cracked gasoline production. Stocks of finished and unfinished gasoline in the United States were reduced by 93,000 barrels daily, having come down to 98,105,000 barrels, but they were 11,462,000 barrels or 13 percent above the level of 86,643,000 barrels at which they stood April 8 last year. The reduction in gasoline storage was accounted for largely by withdrawals of military and other grades. Stocks of civilian grade were reduced only slightly to 52,778,000 barrels from 52,889,000 (revised) a week before. The latest total is somewhat more than 2,000,000 barrels above the inventory of civilian grade held a year ago, which amounted to 50,566,000 barrels. Military and other grades of gasoline in storage April 7 totaled 45,327,000 barrels, having come down from a revised total of 45,869,000 barrels a week before; the present inventory being nearly 10,000,000 barrels above the 36,077,000 barrels of a year ago.

Production of distillate fuel oil averaged 642,000 barrels daily in the week ended April 7, down 8000 from the week before but 44,000 a day or 6.4 percent above output in the like week last year. Stocks were increased at the rate of 21,000 barrels a day, having risen to 27,037,000 barrels. That amount was, however, nearly 3,000,000 barrels or 10 percent below the 29,930,000 barrels reported for April 8, 1944.

Residual fuel oil production averaged 1,337,000 barrels daily in the April 7 week, up 25,000 barrels from the week before and 104,000 barrels a day or 8.5 percent above output in the corresponding week last year. Stocks continued to decrease at the rate of 61,000 barrels daily and dropped to a new low of 41,320,000 barrels for the quarter century since World War I. The present inventory is 10,632,000 barrels or 20.5 percent less than the 51,952,000 barrels held a year ago.

Trends of Operations and Changes in Stocks

Figures on crude stocks are from Bureau of Mines weekly reports; all others from American Petroleum Institute weekly reports, which are estimates on Bureau of Mines basis.

(All figures in thousands of barrels—add 000)

HIGHS AND LOWS OF RECENT YEARS

ITEM	Crude Oil Prod. Barrels Daily	Crude Oil Prod. Week Ended	Runs to Stills Barrels Daily	Runs to Stills Week Ended	Crude Stocks Barrels	Crude Stocks Week Ended	Gasoline Stocks Barrels	Gasoline Stocks Week Ended	Gasoil and Distillate Stocks Barrels	Gasoil and Distillate Stocks Week Ended	Residual Fue Oil Stocks Barrels	Residual Fue Oil Stocks Week Ended
Highs:												
1941	4,337	11-22	4,120	10-18	266,187	3-29	99,727	3-29	[1]54,983	11-15	102,448	1- 4
1942	4,337	2- 7	3,961	1- 3	263,208	3-28	[1]109,281	3-14	47,861	11-14	95,857	1- 3
1943	4,436	11-13	4,331	12- 4	245,752	5-29	94,159	3-20	47,187	11-27	72,881	1- 2
1944	4,762	9-30	4,798	12-30	240,992	1- 1	89,162	4- 1	48,863	10-28	64,644	10- 7
1945	[1]4,783	4- 7	[1]4,803	2-24	223,782	4- 7	99,012	3-24	38,298	1- 6	56,074	1- 6
Lows:												
1939	[2]1,601	8-26	3,125	2-18	[2]229,127	10-12	71,152	10- 7	20,722	4-15	105,397	4- 8
1941	3,364	1-11	3,490	1-18	240,399	11-15	79,923	10- 4	28,382	4-12	90,914	7-12
1942	3,297	7- 4	3,393	5-23	231,896	12-12	75,934	12- 5	29,240	4-25	72,962	12-26
1943	3,821	1- 9	3,579	3-13	232,191	1- 9	68,182	10-16	30,732	4- 3	57,596	12-25
1944	4,357	1- 1	4,228	2-12	220,258	9- 9	76,302	1- 1	30,232	4-19	49,737	3-18
1945	4,678	1- 6	4,656	1- 6	[4]218,675	3- 3	86,616	1- 6	26,483	3-17	41,320	4- 7

TRENDS OF 1944 AND 1945

Trends in Week Ended:	Crude Oil Production Daily	Crude Oil Runs to Stills Daily	Crude Oil Stocks Week End	Gasoline Production Weekly	Gasoline Stocks Week End	Gasoil and Distillate Production Weekly	Gasoil and Distillate Stocks Week End	Residual Fuel Production Weekly	Residual Fuel Stocks Week End
1944:									
January 1	4,357	4,453	240,992	13,192	76,302	4,575	42,310	9,141	57,330
January 29	4,409	4,359	240,251	13,427	81,075	4,054	37,266	8,889	52,857
February 26	4,423	4,377	237,137	13,183	85,248	4,558	33,766	8,952	51,387
March 25	4,385	4,443	236,285	13,362	87,287	4,979	31,319	9,013	51,669
April 1	4,383	4,435	234,667	13,824	89,162	4,450	30,530	8,367	51,326
April 29	4,431	4,300	235,342	13,126	88,462	4,284	30,236	8,398	49,985
May 27	4,514	4,532	234,423	13,502	86,468	4,702	32,035	8,568	49,812
July 1	4,587	4,638	228,860	14,052	83,559	4,496	35,360	8,872	52,235
July 29	4,608	4,627	225,112	14,115	82,665	4,833	38,135	8,900	56,280
August 26	4,667	4,698	222,931	14,112	80,740	4,566	41,453	8,680	59,839
September 30	4,762	4,775	222,393	14,494	78,028	4,622	45,329	9,292	64,226
October 28	4,740	4,658	223,235	14,117	79,058	4,772	48,705	8,985	64,382
December 2	4,712	4,693	221,591	14,853	80,427	4,082	45,832	8,981	61,727
December 9	4,704	4,552	220,258	14,611	80,880	4,056	44,436	8,923	60,458
December 16	4,695	4,537	222,075	14,145	82,747	4,353	42,413	8,727	59,280
December 23	4,729	4,682	222,575	14,635	83,355	4,605	40,846	8,798	58,509
December 30	4,705	4,798	222,998	15,342	86,614	4,257	39,495	9,156	57,430
1945:									
January 27	4,727	4,756	221,310	14,957	88,223	4,843	33,651	9,252	51,119
February 24	4,777	[1]4,803	219,351	15,500	95,972	4,958	28,753	9,084	46,713
March 3	4,765	4,753	[4]218,675	14,704	97,603	5,026	28,110	8,728	45,021
March 10	4,768	4,777	218,760	14,557	97,310	4,887	27,001	9,753	44,150
March 17	4,774	4,773	219,486	14,481	98,882	4,527	26,483	9,042	43,718
March 24	4,782	4,742	221,227	14,907	99,012	4,448	26,782	9,166	43,327
March 31	4,781	4,677	223,782	14,644	98,758	4,548	26,889	9,184	41,745
April 7, 1945	[1]4,783	4,686	.....	14,244	98,105	4,493	27,037	9,359	41,320
April 8, 1944	4,416	4,399	[5]234,667	13,112	86,643	4,801	29,930	8,629	51,952
Change:									
In week	+2	+9	+2,555	—400	—653	—55	+148	+175	—425
In year	+367	+287	—10,885	+1,132	+11,462	—308	—2,893	+730	—10,632
Ip year	+8.3%	+6.5%	—4.6%	+8.6%	+13.2%	—6.4%	—9.7%	+8.5%	—20.5%

[1] All time peak. [2] Lowest between January, 1922 and July 1, 1944. [3] Lowest since October, 1922, due to shutdown of six Mid-Continent states. [4] Lowest since December, 1921. [5] Stocks, April 1, 1944.

Governor Says Tidelands Belong to Mississippi

Mississippi's Governor Bailey announced last week that Secretary of Interior Harold Ickes had inquired on what authority the state of Mississippi had leased some 400,000 acres of Gulf Coast sound for oil and gas exploration, the Governor replying that the land was leased by virtue of its belonging to the State.

FPC Asked to Approve 1216-Mile Line From Oklahoma to Midwest Markets

Plans for a $70,000,000 postwar natural gas pipe line project were laid before the Federal Power Commission last week by the American Light and Traction Company in an application for authorization to construct and operate 1216 miles of pipe line capable ultimately of carrying 320,000,000 cubic feet of gas daily between the Hugoton gas field near Guymon, Oklahoma, and markets in Missouri, Iowa, Illinois, Wisconsin and Michigan, with a terminus near detroit.

1076 Miles to Start

The company proposes to start with about 1076 miles of the line, 816 miles of which would be of 26-inch and the remainder of 22-inch pipe, giving an initial capacity of 150,000,000 cubic feet daily. Through the use of the Austin and other gas storage fields in Michigan now owned by a subsidiary, the Michigan Consolidated Gas Company, a maximum day's requirements in excess of 630,000,000 cubic feet could be supplied by the fully completed system. The Michigan company, the application showed, proposed to construct about 140 miles of 26-inch line to connect the Austin field with the Detroit area.

The company said the gas supply for the proposed line would be purchased from reserves in the Hugton field in Texas and Oklahoma owned and controlled by the Phillips Petroleum Company and estimated to be not less than 3 trillion cubic feet. Total sales for the fifth year of operation are estimated at 105,120,000,000 cubic feet.

Cost of the initial construction was estimated by the company at $49,000,000, with additional construction during the first four years of operation bringing the total cost of the project to $70,000,000. The pipe line is to be built and operated by a wholly owned subsidiary, the Michigan Wisconsin Natural Gas Pipe Line Company, which A. L. & T. proposes to organize. The parent company proposes to provide $20,000,000 of equity capital, taking common stock at par in exchange, and Michigan Wisconsin would market $30,000,000 of first mortgage 3½ percent bonds.

If approved by the commission, construction would begin about March 1, 1946, with the initial installation completed before October 31, 1947, the application stated, explaining that "this project is essentially a postwar project, meaning that it is not to be undertaken until either the cessation or the reduction of war requirements makes available the necessary material and supplies for civilian use."

Long-Term Project

The application was offered as providing a "dependable and long term supply of natural gas at reasonable cost" for the metropolitan area of Detroit and other markets along the right of way. For the first four years, it was explained, the service would consist of supplying Michigan Consolidated with all its requirements in excess of those supplied under contract by Panhandle Eastern Pipe Line Company, and the entire natural gas requirements of Milwaukee, Racine, Beloit, Janesville and Madison, Wisconsin; Rock Island and Moline, Illinois; Des Moines, Davenport, Cedar Rapids, Ottumwa, Fort Dodge and 36 smaller communities in Iowa, and Marysville, Missouri. All told, 54 communities or districts would be served, 22 of which now receive natural gas from other pipe lines, 23 have manufactured gas service, one has both and one has mixed gas, while seven have no present gas service.

An application for a modification of this project, to provide service to Ohio industries during the war emergency, was filed with the FPC in February. No hearing has been set on that proposal.

Stanolind to Recondition 14-Mile Line in Oklahoma

Stanolind Oil and Gas Company has awarded a contract to Williams Brothers, Tulsa, to take up and recondition 14 miles of 8-inch oil line and take up and stack 14 miles of 6-inch oil line between the company's Drumwright and Terlton stations in Creek County, Oklahoma.

Pan American to Extend Brazoria County System

The Pan American Pipe Line Company and Pan American Gas Company plan to extend their gathering system in the Chocolate Bayou field, Brazoria County, Texas. The companies are awarding contract for the laying of 4 miles of 4-inch gas and distillate gathering line in the field.

4-Mile, 4-Inch West Texas Line Planned by Humble

Humble Pipe Line Company has authorized the construction of a 4-mile, 4-inch extension from its Fuhrman-Mascho field system, Andrews County sector of West Texas, to serve the new Basal Clear Fork 36-gravity sour crude area opened by Sun Oil Company's Martin 1.

$3,500,000 Texas Empire Program Approved by WPB

The War Production Board has approved a $3,500,000 expansion program scheduled by the Texas Empire Pipe Line Company for completion in November, which includes construction of 164 miles of 12-inch loops on its line between Sheldon, Missouri, and Heyworth, Illinois. With the present looping of 54 percent of the line, the project will provide a double line between these points, increasing capacity from 90,000 to 110,000 barrels daily. New pipe will be used for the construction. Delivery is expected in June or July.

The company also proposes to increase the capacity of its line between Cushing, Oklahoma, and Sheldon, Missouri, from 48,000 to 65,000 barrels daily by placing in operation the Sam Springs, Oklahoma and Scammon, Kansas, stations now inoperative. The expansion program contemplates the installation of larger equipment at the Alluwe, Oklahoma, station, to provide pipe line space for moving an additional 20,000 barrels of crude daily from Oklahoma and Kansas to Chicago and other refineries in the Great Lakes area.

The Texas-New Mexico Pipe Line Company reported to PAW that pipe laying has been completed and all station work is to be finished on its 30-mile 12-inch pipe line between Crane and Houston.

Big Inch Shipments Cut By Floods In East Texas

Flood conditions in the East Texas field caused a sharp reduction in the supply of this crude reaching the War Emergency Pipeline, Inc.'s 24-inch carrier to the East during the week ending April 9, when shipments averaged 317,375 barrels daily. This compares with 320,480 barrels daily the preceding week. The drop was cushioned somewhat by heavier runs of Southwest and West Texas crudes.

Production as well as facilities for handling a large portion of output of the non-flooded sector of the East Texas field were sharply reduced when the Sabine River reached an all-time high mark. All Big Inch mainline stations near the stream were submerged.

The Atlantic Pipe Line Company's Horton station was under 14 feet of water, although surrounded by protective dyke built 2 feet above previous flood stage. This electric-powered station was stripped of its motors and other moveable equipment by workmen in boats when it became apparent the dyke would be inadequate. The station was restored to service within a few days after the waters subsided, but some of the other stations did not fare so well. Atlantic succeeded in delivering 165,000 barrels of West Texas crude into the Longview terminal of the Big Inch while its Horton station was out of commission. A diver's helmet was brought in from the coast to permit a workman to manipulate the manifold valves that by-passed the station.

Humble Moving Office

Humble Oil & Refining Company is shifting its office from Mobile, Alabama, to Hattiesburg, Mississippi, to supervise activities in Mississippi and Alabama. The company is also opening an office in Tallahassee, Florida, to oversee work in Georgia and Florida.

Texas-Louisiana Line Hearing Delayed To Wind Up Arguments on TGT Project

Hearings on the application of the United Gas Pipe Line Company for authority to build and operate 142 miles of 24-inch line from Carthage Field, Texas, to Ouachita Parish, Louisiana, have been again postponed, indefinitely but briefly, to permit the Federal Power Commission to conclude its hearings on the Tennessee Gas and Transmission Company project for construction of 95 miles of 16-inch line from the San Salvador Field. The Tennessee hearings may be completed by April 16.

Motion for the postponement was filed by Harry S. Littman, counsel for the commission, as the hearings, previously delayed from March 26 because of the lengthy Tennessee proceedings, opened April 9. The commission accepted the motion when counsel for United, C. Huffman Lewis, expressed his willingness to let the matter go over.

Littman told United counsel that he did not expect the Tennessee case to take much longer and that the hearings on the Carthage Field-Ouachita Parish line would not be long delayed.

Meanwhile, the FPC scheduled a hearing May 2, in Washington, on the application of the Northern Natural Gas Company for authority to construct one additional 1300-horsepower compressor unit at each of its Bushton and Mullinville, Kansas, compressor stations, together with approximately 15.4 miles of 24-inch loop line in Ellsworth and Ottawa counties, Kansas, with 16-inch tie-over lines and appurtenances.

The commission also invited representations from interested parties to be filed by May 3, on an application of Cities Service Gas Company for permission to acquire and operate facilities of Cities Service Transportation and Chemical Company, consisting of 231 miles of 26-inch natural gas pipe line running from a point near Guymon, Oklahoma, in the Hugoton gas field, to Blackwell compressor station in Kay County, Oklahoma, together with a compressor station, dehydration plant and other facilities. A hearing has been scheduled for May 9, in Washington.

Postwar Fate of England's Big Pipe Line Is Debated

England, too, has a postwar pipe line problem, it was disclosed last week in reports reaching Washington from London.

The future of the $28,000,000 system which carries 5,000,000 gallons of oil products daily from the ports to strategic centers is becoming a subject of speculation in English financial circles, it was reported.

One report suggested that the government will sell the entire system at cost.

Pan American Constructing Terminal at Port Isabel

Pan American Pipe Line Company is constructing its own pipe line terminal at Port Isabel for the handling of oil from the Willamar field, Willacy County, Texas.

The company is constructing two 96,000-barrel tanks, with one near completion. The construction, including installation of loading pumps and facilities, is expected to be completed by June 1.

Pan American now is shipping oil from the Willamar field through its 8-inch pipe line to the Coastal Refinery Company terminal at Port Isabel for handling.

AIRCRAFT MAINTENANCE SERVICE
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Based at San Tome, Venezuela, this Lockheed 10 YV-AEF is operated by the Mene Grande Oil Co., C. A., which is owned by the Gulf Oil Corporation, New York. Pilot is V. "Red" Irwin with R. V. "Bob" Morgan co-pilot. Service and maintenance by Southwest Airmotive keeps the Lockheed in excellent flying condition.

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Gulf Oil Corporation, Dallas, Texas
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Humble Oil & Refining Co., Aviation Division, Humble Bldg., Houston, Texas
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Parker Drilling Co., Tulsa, Oklahoma
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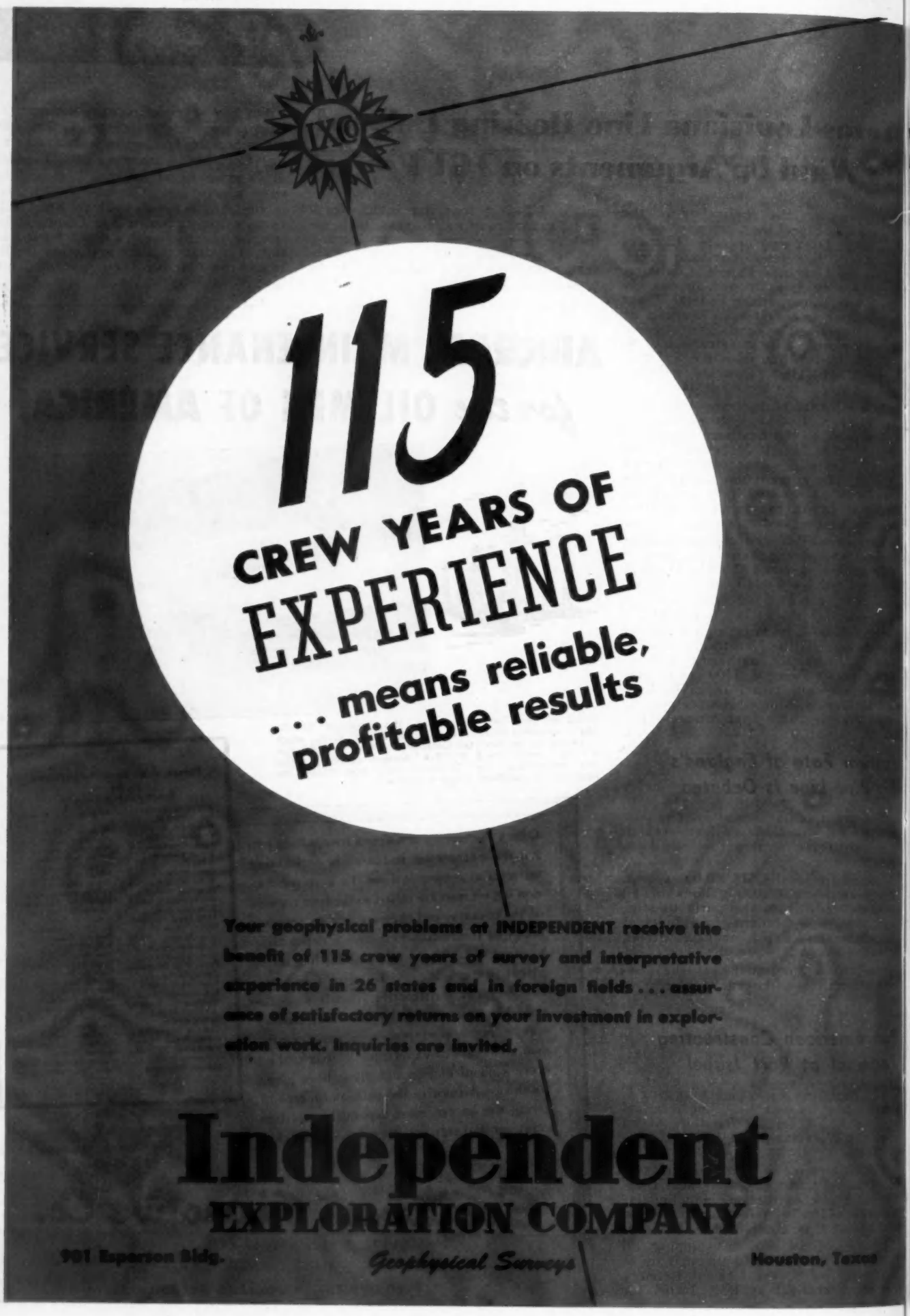
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Venezuela Proved Reserves Nearing 7 Billion Barrels

Reliable estimates by major operating companies in Venezuela indicate that more than 600 million barrels of proved reserves were added there as a result of 1944 drilling operations, and that the nation's unproduced reserve at the end of 1945 will amount to approximately 7 billion barrels, perhaps more, depending upon the rate of withdrawal during the remaining months of the year.

It is believed that unless war demand for Venezuelan crudes tapers off in coming months the daily rate of production in Venezuela will reach a figure between 925,000 and 950,000 barrels by the last quarter of this year.

San Joaquin Field Shallow Pay to Be Investigated

A project scheduled for early attention by Creole Petroleum Corporation is investigation of the producing possibilities of a shallow Oligocene pay in the San Joaquin field, central Anzoategui, Venezuela. Development of the field has been confined to completions in the deeped Eocene pay section, encountered at an average depth of about 7000 feet, resulting in wells with initial daily production rates of 1500 barrels and up.

The unexploited Oligocene pay occurs between 3600 and 3700 feet, but has been cased off in all but one well. In the latter case, involving well JM 30, a blow-out occurred while drilling at 3682 feet. The well was killed and abandoned, but the blow-out is regarded as a significant indication that the higher pay should receive immediate drilling appraisal in the field.

New Exploration Started In Northwestern Ecuador

Ecuador Oilfields, Ltd., wholly owned subsidiary of British Controlled Oilfields, Ltd., is beginning a program of geologic and gravimetric surveys over an area of 40,000 acres in northwestern Ecuador, on which the company has held concession rights for a number of years. Wildcat drilling at selected locations will be started this year. The company has 200 acres of production in the Piura area, developed before the war.

Sweden and Finland Make Lubricants from Wood Tar

Wood tar, secured as a by-product of charcoal making, is now being used on a large scale in Sweden and Finland as base stock for the manufacture of lubricants for industrial and transport requirements. Hydrogenation methods are employed in processing the tar, yielding lube stocks that can be blended with corresponding fractions secured from shale oil and meager supplies of petroleum.

Experiments indicate that suitable lubricants will soon be successfully made directly from the tar alone, and many new charcoal plants are projected. The principal by-product of hydrogenation of the tar is a fuel liquid that is being successfully used as a low-grade motor fuel.

San Vicente Test Drilling

Socony-Vacuum Oil Company reported on March 21 that drilling was progressing below 6500 feet at San Vicente 1 wildcat in the Apure basin, Barinas, Venezuela.

La Paz Field Producing 14,300 Barrels Daily

Production of the La Paz field, in northwestern Zulia, averaged 14,300 barrels per day during the last quarter of 1944, according to the ministry of Fomento, government of Venezuela. The field is operated by Venezuelan Oil Concessions, Ltd., a subsidiary of the Royal Dutch Shell group. The company is paying an exploitation tax on La Paz production of approximately 18.5 cents per barrel.

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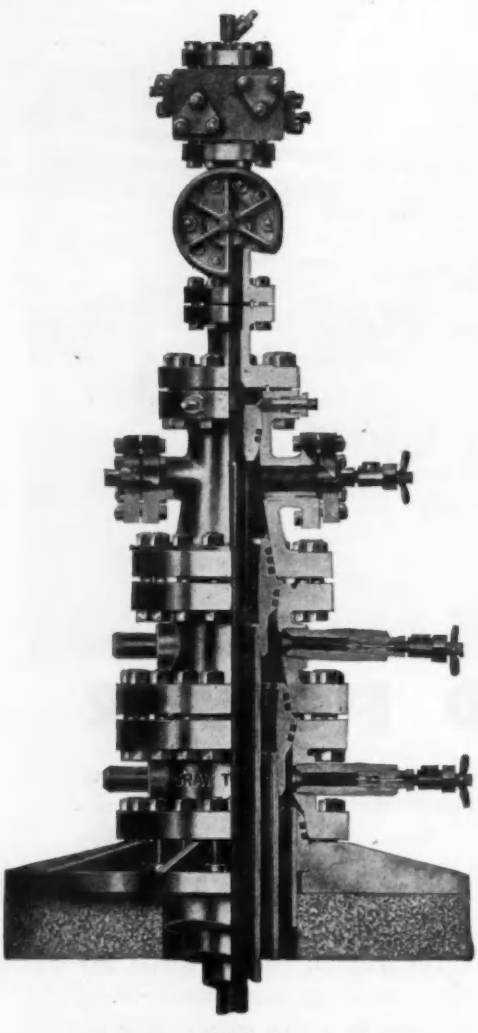

FIGURE 1A

Complete Well Head Assembly equipped with Composite Manifold, Valve Removal, Installation and Removal.

Provision should be made for control during and between all steps in the building of an oil well into the ground. Here are some of the gaps for which control should be provided, if you are to have the protection of complete control:

1. The period between the drilling, hanging and sealing of each string of casing and arrangement of equipment for drilling, hanging and sealing a succeeding string.
2. The period between sealing the final string of casing and providing equipment for running the tubing.
3. The period between the running, hanging and sealing of the tubing and assembling of the flowing manifold.
4. The period between outside washing and elevating of tubing to hanging position.
5. The period between the removal of flowing manifold and assembling of control equipment for unseating of packers and killing of the well when reworking becomes necessary.

There are many other periods where the changing of equipment becomes necessary in meeting usual and unusual problems which arise during the drilling of an individual well, but these illustrations serve to remind one of the necessity for control during and between all operations. Gray Systems of Well Control provide the degree of complete control referred to above, plus the ability to use master valves, blowout preventers, strippers and other available control equipment throughout their entire period of usefulness, after which provision is made for the disassembling and removal of these expensive parts, with control, to the position of accessories for use on other wells.

The whole is greater than any of its parts.
Be sure you have control during the assembling and disassembling of equipment between operations!

THE WHOLE IS GREATER THAN ANY OF ITS PARTS

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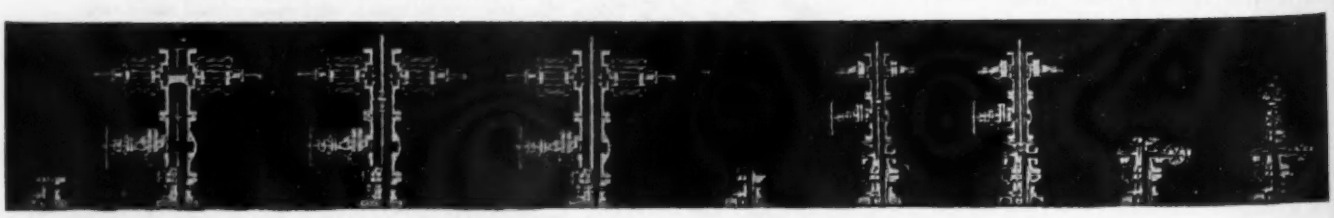


Casing Head Attached | Drilling | Running Casing | Casing Landed | Drilling Control Equipment Removed | Drilling-in and Running Tubing | Tubing Landed | Control Equipment Removed | Manifold Attached

☆Oklahoma

Magnolia Opens Gas Area East of Chickasha Pool

Magnolia opens big gas area east of Chickasha pool in Grady County as wildcat kicks off to flow 95 million cubic feet of gas and distillate; The Carter Oil Company taps important production in Anadarko Basin south of Washington pool; East Pauls Valley wildcat extends pool nearly 2 miles to open new producing horizon in Ordovician measure; pool opener likely in Anderson-Prichard test in Western Pontotoc County.

Grady County: Oklahoma's deepest drilling wildcat has now become the state's deepest producer as Magnolia Petroleum Company reported its Cunningham 1, SE NE 33-5n-6w, about 9 miles east of the big Chickasha gas area had kicked off through perforations between 10,879-82 feet and flowed 95 million cubic feet of gas and some distillate through casing and tubing with 3700 pounds casing pressure. When casing was shut in the well gauged 18 million cubic feet through tubing and pressure was reported building up. The wildcat had been drilled to 10,891 feet and had been showing gas for several days. The strike will give Oklahoma an important new gas reserve with production believed to be in the basal Pennsylvania sands.

McClain County: Carter apparently has struck important pay in the Ordovician measure of the Anadarko Basin and has extended the Washington pool about ½-mile south as its McBride 1, CSE NW 9-7n-3w, was being completed after flowing 598 barrels of clean oil in 14 hours. The well is producing from the Second Wilcox sand topped at 10,580 feet. It was tested after packer was set at 10,535 feet with ¼-inch choke at top and bottom and with 2500 feet of cushion water. Oil tested 41-gravity and oil-gas ratio is 896-1. Depth is 10,647 feet with tubing set to 10,620 feet. The new well appears to have a potential of about 2000 barrels daily.

Garvin County: The Ohio Oil Company has extended the East Pauls Valley pool nearly 2 miles west and at the same time tapped a new and deeper producing horizon in the Ordovician section. Chisholm 1, SW NW NW 13-3n-1e, swabbed an estimated 175 barrels of oil per day through perforations from the Oil Creek sand between 3845-55 feet. Operator continues testing in attempt to shut off water which showed up with the oil. New production is about 800 feet deeper than the Burns sand which is East Pauls Valley pool's producing horizon.

Pontotoc County: Anderson-Prichard Oil Corporation apparently has a pool opener at Newburn 1, SE NE SW 31-5n-4e, about 5 miles northwest of Roff in the western part of the county. The wildcat cored saturation between 2020-25 feet in a stringer sand in the Pennsylvania series and on drill-stem test showed about 250 feet of oil and some mud. Casing was set at 2020 feet and when plug was drilled the well kicked off and flowed at the rate of 10 barrels of oil an hour. The test has been shut in while storage is being erected. The strike is in an area where a number of small pools have been producing for years.

West Edmond: Peppers Refining Company completed Anderson 2, CSW NW 22-13n-4w in the Oklahoma County sector of the 4-county pool, to bring production within ¾-mile of the Bluff Creek water reservoir which supplies Oklahoma City. The well initially tested 65 barrels of oil an hour through 1-inch choke on tubing from the Bois D'Arc. Phillips Petroleum Company staked Halmbacher 1, CNW SE 22-13n-4w, which is another ¼-mile nearer the reservoir. Three additional wells were completed in the Oklahoma County sector in a week's time while Phillips gave Kingfisher County another producer at Tapp 1, CNE SE 36-15n-5w, which flowed 450 barrels of oil in 4 hours from the Bois D'Arc horizon. The field has more than 460 producers.

Creek County: Saturation in the Prue sand is reported at Olson Drilling Company et al's Cook 1, SE NW NW 6-14n-8e, wildcat five miles south of Depew. Operator has set pipe at 2439 feet and was preparing for production test and was moving rig to drill Cook 2 in NW NE NW Sec. 6. Deep Rock Oil Corporation is setting up for Johnson 1, NW NW SE 6-14n-8e.

Pottawatomie County: The Texas Company has opened a new gas area about 1 mile southeast of the old West Asher pool with completion of Vestal 1, NW NW SE 28-6n-3e, good for between 15 and 20 million cubic feet of gas per day from Layton sand at 2854-78 feet. The wildcat was carried to 4463 feet in the Wilcox and perforations at 3866 feet in the Hunton recovered salt water. Basal Pennsylvanian was perforated at 3103-09 feet and about 20 million cubic feet a day resulted but the well was killed in a search for oil. The well is shut in.

Twenty Wells Abandoned

Twenty exhausted oil and gas wells were abandoned in Oklahoma between February 20 and March 23, according to the conservation department of the Oklahoma Corporation Commission. Twenty-eight dry holes were listed for the period. Seventeen wells were plugged in the east ranges and three in the west ranges of Oklahoma, while 18 and ten dry holes, respectively, were drilled and abandoned in the east and west ranges.

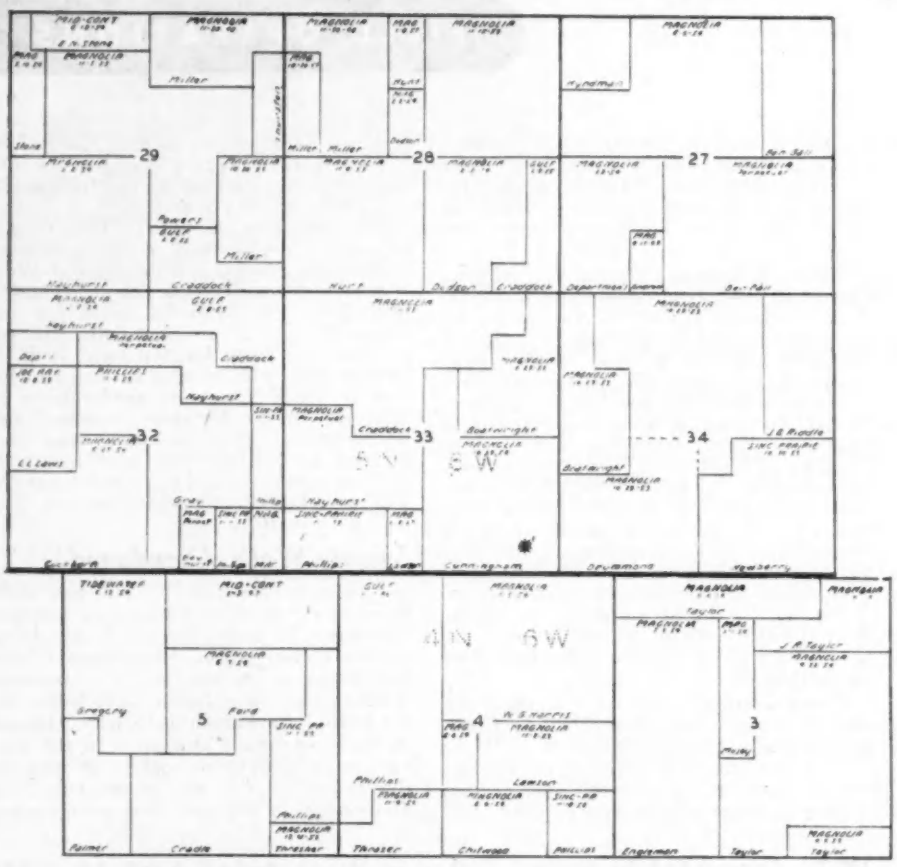
Wells Completed in United States in Week Ended April 14, 1945

Data preliminary and subject to revision. Revised and more complete data on all completions shown in monthly summary of drilling, published in second issue of each month. More detailed data on wildcats published in third issue of each month.

State or District	FIELD COMPLETIONS: New Wells *Oil	Gas	†Input	Dry	Total	Old Wells Deepened	WILDCAT COMPLETIONS *Oil	Gas	Dry	Total	ALL COMPLETIONS This Week	Last Week	Cumulative This Year	Cumulative Last Year
Alabama	1	....	....	....	1	....	....	....	....	....	1	1	6	4
Arizona	....	....	....	....	....	....	....	....	....	....	....	....	....	2
Arkansas	4	....	....	....	4	....	....	....	1	1	5	5	38	54
California	36	....	....	....	36	....	....	....	7	7	43	17	567	533
Colorado	1	....	....	....	1	....	1	....	....	1	2	2	11	8
Florida	....	....	....	....	....	....	....	....	....	....	....	....	4	....
Georgia	....	....	....	....	....	....	....	....	....	....	....	....	2	1
Illinois	11	....	....	5	16	2	....	....	7	7	25	21	454	450
Indiana	1	....	....	2	3	....	....	....	2	2	5	10	85	86
Iowa	....	....	....	....	....	....	....	....	....	....	....	....	1	2
Kansas	17	1	....	9	27	3	1	2	4	7	37	22	403	511
Kentucky	3	....	....	1	4	1	....	....	....	....	5	7	130	184
Louisiana	11	1	....	4	16	....	3	....	1	4	20	30	263	177
North Louisiana	4	1	....	1	6	....	....	....	1	1	7	13	87	53
South Louisiana	7	....	....	3	10	....	3	....	....	3	13	17	176	124
Michigan	12	1	....	6	19	....	1	....	7	8	27	17	204	159
Mississippi	4	....	....	1	5	....	....	....	....	....	5	7	102	28
Missouri	....	....	....	....	....	....	....	....	1	1	1	....	11	4
Montana	1	....	....	1	2	....	....	....	1	1	3	3	53	72
Nebraska	....	....	....	....	....	....	....	....	....	....	....	....	2	7
New Mexico	7	....	....	1	8	....	....	1	....	1	9	12	145	119
New York	15	....	10	....	25	....	....	....	....	....	25	25	242	340
Ohio	3	2	....	....	5	....	....	....	....	....	5	3	184	231
Oklahoma	40	1	1	13	55	....	....	....	5	5	60	42	654	424
Pennsylvania	27	5	15	1	48	....	....	....	....	....	48	47	756	780
Tennessee	....	....	....	....	....	....	....	....	....	....	....	....	....	4
Texas	74	26	....	34	134	4	10	....	25	35	172	147	2,014	1,511
E.Tex.Bor. Co.'s	....	....	....	....	....	....	....	....	....	....	....	....	20	4
E. Texas Field	....	....	....	....	....	....	....	....	....	....	....	....	....	3
Rest of E. Texas	4	....	....	1	5	....	....	....	2	2	7	4	58	81
North Texas	14	....	....	6	20	....	....	....	7	7	27	28	431	351
W. Central Tex.	3	7	....	3	13	1	2	....	6	8	22	22	134	107
West Texas	28	1	....	13	42	3	5	....	2	7	51	27	534	411
Tex. Panhandle	1	18	....	....	19	....	....	....	1	1	20	17	182	56
G. Coast, Upper	5	....	....	5	10	....	2	....	2	4	14	15	200	131
G. Coast, Lower	14	....	....	3	17	....	1	....	3	4	21	18	289	237
Southwest Texas	5	....	....	2	7	....	....	....	2	2	9	13	142	104
S. Central Tex.	....	....	....	1	1	....	....	....	....	....	1	3	25	26
West Virginia	10	1	....	1	12	....	....	....	....	....	12	17	213	265
Wyoming	3	....	....	1	4	....	....	....	1	1	5	3	46	44
Total U. S.	281	38	26	80	425	10	16	3	62	81	515	438	6,591	6,000

* Includes distillate wells. † Includes salt water disposal wells.

Gas Reserve Opened by Oklahoma Wildcat



—Courtesy Ralph Jerome, Apco Tower, Oklahoma City

Map shows location of Magnolia Petroleum Company's Cunningham 1, SE SE 33-5n-6w, east of the Chickasha gas area and southeast of the Ninnekah community. The wildcat is now the state's deepest and apparently opens an important gas reserve for Oklahoma. Perforated with 40 shots opposite 10,879-82 feet in what is believed to be basal Pennsylvanian sand, the well flowed more than 95 million cubic feet of gas per day plus some distillate with casing pressure at 3700 pounds and still building up.

☆ Kansas

Flowing Wildcat Revives Interest In Winfield Area

Revival looms for abandoned Winfield pool as wildcat flows 200 barrels of oil through 10-inch casing; McGinnis prepares to test Viola show in well 5 miles southeast of Hillsboro pool; Continental logs saturation in Kinderhook zone in Pawnee County; Ryan pool discovery well given potential of 2591 barrels of oil daily.

Cowley County: W. H. Lassen's Wise 1, SE SE NW 1-33s-4e, in the south end of the old abandoned Winfield pool, surprised operators when it flowed an estimated 200 barrels of oil daily through 10-inch pipe from the Elgin sand topped at 1820 feet. Production was logged in the last 5 feet of the section to 1825. The well apparently was going to the deeper zones when it headed up and flowed. The Winfield pool was abandoned several years ago and the strike is reviving interest in the area. The Wise well continues testing.

Marion County: After encountering a good oil show in the Viola lime Ward McGinnis was rigging up standard tools to test Propp 1, NW NE 25-19s-3e, wildcat about 5 miles southeast of the Hillsboro pool. Log shows the Viola checking high with several dry holes in the area. The formation was topped at 2667 feet and saturation was reported to 2671 feet. The well was drilled to 2829 feet, total depth, in Arbuckle lime.

Pawnee County: Continental Oil Company was preparing to test Norris 1, SE SW NE 9-22s-20w, after reporting good saturation in the Kinderhook sand at 4403-32 feet. Compared with a dry hole about ½ mile southeast, the wildcat which is 2½ miles south of Burdett, was reported checking 296 feet on the Arbuckle. If successful it will open up a new trend on the western flank of the Kansas Uplift.

Continental was setting pipe for a test at Strat 32, a "tight" wildcat in 15-20s-17w, about 7 miles west of the Pawnee Rock pool.

Rush County: Inland Oil Company's Peterson 1, SE SE SW 35-19s-16w, discovery well for the new Ryan pool, 2½ miles northwest of the Pawnee Rock field, has been completed in the Arbuckle at 3725-27 feet with a bottom hole potential of 2951 barrels of oil daily (natural). The well set off an intensive development campaign in the general area.

Dickinson County: A pool opener 2 miles north of the North Lost Springs field looms at National Drilling Company's Doyle 1, NE NE SE 22-16s-4e. On drill-stem test at 2278-2308 feet in the Mississippi lime section, it recovered 2000 feet of clean oil.

Stanton County: Stanolind Oil & Gas Company extended the Hugoton gas area 6 miles west with completion of Col-Mac 1, C 32-30s-39w, in the Herrington-Kinder zone. After acidizing with 27,000 gallons between 2619-2725 feet the wildcat flowed 9,495,000 cubic feet of gas daily. Total depth is 2725 feet.

Rooks County: About 20 miles northwest of the Stockton pool, Harber Drilling Company's Brobst 1, NWc 7-6s-19w, encountered a good oil show in the Lansing topped at 3299 feet and was preparing for production test. The hole had been carried to 3644 feet in the Granite with the Arbuckle missing and Lansing checking several feet higher with a dry hole in the area.

☆ New Mexico

Glorietta Confirmed for Lea County Production

The Glorietta lime confirmed for production in eastern Lea County; wildcat near Hobbs passes up prospective strike in Clear Fork to fulfill Ellenburger contract.

Lea County: Gulf Oil Corporation's Paddock 1, 3 miles north by west of the Drinkard-Yeso field, flowed 485 barrels potential after using acid through Glorietta (Holt) perforations at 5200-30 feet. This is a new pay for the county. Samedan Oil Corporation's Boyd 1, C NW SE 23-22s-37e, and 3 miles south by west of Paddock 1, entered the Glorietta at 5050 feet, being 50 feet high, and recovered heavily oil and gas-cut mud when tester was used in porous lime at 5090-5180 feet. Shutin bottom hole pressure was calculated at 2800 pounds. Boyd 1, was drilling at 5580 feet to explore the Clear Fork before running pipe for completion.

The Texas Company's Blinebry 1, northeast offset to the Drinkard-Yeso discovery, failed to indicate production in the 6400-foot Yeso (Clear Fork) lime, and was drilling at 6725 feet.

☆ West Texas

Ordovician Wildcat In Ward Is Encouraging

Ordovician wildcat in Ward County shows encouragement for production in approaching the Ellenburger; Glasscock County prospect delayed by blowout threat from upper zone; Ector County's deep area makes good flow from Silurian, while third producer from Devonian is assured.

Ector County: Phillips Petroleum Company's T. P. Land Trust-Phillips 1-A, 1⅝ miles northeast of Devonian production in the TXL field and a failure in this zone although the highest structurally, flowed at a rate of 60 barrels of oil hourly when tester was used at 7421-71 feet. Five feet of fractured lime, showing oil, was recovered in coring to 8495 feet, where a drill-stem test returned 90 feet of oil- and gas-cut

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mud and 270 feet of free oil, indicating probable base of pay. No further shows were noted in drilling below 8520 feet. The field's discovery also made a good showing through tester from the Sulurian, topped at 8590 feet. Amerada Petroleum Corporation's T. P. Land Trust 1, northwest offset to the discovery, entered the Devonian at 7893 feet, 32 feet low, and first pay at 7895 feet. It was drilling pay at 8012 feet, and will set 7-inch pipe when bottomed at 8050 feet to complete through perforations. The latter was spudded January 18, and reached the pay within 2 2/3 months for a field record. There are 14 active tests, all contracted to Devonian, or below, within and near the TXL field.

Ward County: Gulf Oil Corporation's John Edwards 1-E, PSL Sec. 1, Block B-19, 3 miles south by east of the Monahans-Ellenburger field and about 400 feet lower structurally, was drilling Basal Simpson at 10,498 feet with the Ellenburger zone due near the 10,525-foot level. This wildcat recovered a nominal volume of oil and gas in a series of drill-stem tests of the Simpson that will be given further testing should the Ellenburger prove barren.

Glasscock County: Phillips Petroleum Company's McDowell-Dow 1, Ellenburger prospect and ⅞-mile southwest of a 10,906-foot failure, was conditioning mud to forestall a blowout due to pressure buildup and oil- and gas-cut rotary returns at 9421 feet.

Howard County: Continental Oil Company and Group One Oil Corporation's Settles 1-D-133, the county's first Ordovician test, was making a drill-stem test at 10,112 feet in Ellenburger, topped at 9904 feet. No effective pay has been reported for this zone, but a commercial well is anticipated when plugged back to the 6800-foot Crinoidal.

Midland Basin: Humble Oil & Refining Company's Buchanan 1, Midland County prospective gas-distillate strike at the Permian-Pennsylvanian contact at 10,347-10,388 feet, was drilling lime and shale at 10.580 feet. The company's Parrott 1, Upton County wildcat that flowed oil at 9550-76 feet, with possibilities of a small pumper in broken pay at 7250-7575 feet, was drilling shale at 10,515 feet, while Gresham 1, a mile west by north, missed this upper pay in drilling shale at 7435 feet.

Winkler County: Richardson & Bass, Inc.'s, Kansas City 1, 2⅛ miles southeast of Keystone-Ellenburger production, was drilling Simpson lime at 9550 feet and probably too low to produce from the Ellenburger. However, it logged several prospective oil zones in the middle and lower Permian.

Sun Oil Company's Keystone 2, 2 miles north by west of Ellenburger production, swabbed a small amount of oil and acid residue without water from perforations at 8560-8604 feet, and will reperforate at 8460-8560 feet to include most effective saturation in Silurian, then re-treat with 10,000 gallons of acid. A commercial well, and new pay discovery for area is likely.

Gulf Oil Corporation's Keystone 51-E, second highest structurally for the Keystone area, flowed 1049 barrels of 44-gravity oil and 1,740,000 cubic feet of sweet gas initial through ½-inch choke after using 1000 gallons of mud acid. Production is from perforations at 9615-90 feet in Ellenburger, topped at 8920 feet, with gas-oil contact at 9515 feet and granite at 9690 feet.

☆ Central West Texas

Runnels County Given Flowing Discovery

Runnels County has flowing discovery in Strawn; 2 Ellenburger strikes in Stephens County near shallower producers.

Runnels County: O. P. Leonard et al's Livingston 1, Sect. 110, J. H. Parramore Survey and near the Coleman County line, flowed 206 barrels potential through open tubing after acidizing Strawn pay at 3015-30 feet. This wildcat is 5½ miles west by north of nearest oil production, and excluded bottom hole water in plugging back from 3085 feet to 3030 feet.

Stephens County: The Texas Company's Parks 47-A, NWC Sect. 3373, TE&L Co. Survey, established a deeper pay in the Parks Camp area in pumping 9 barrels of oil initial from broken saturation in Ellenburger at 4102-07 and 4150-54 feet, having plugged back from 4305 feet. The two zones were treated with 1000 gallons of acid.

American Manufacturing Company's Rogers 1, SW T&P Ry. 27, Block 5, near old Bend lime production, flowed 125 barrels of 45-gravity oil initial through 19/64-inch choke after using 2500 gallons of acid at 4471-4513 feet in Ellenburger, topped at 4458 feet. Roser-Pendleton, Inc. and Kirk Johnson's Phillips 1, prospective discovery, or 1¾-mile east extension for the East Ibex deep area, was attempting to set liner and acidize Ellenburger saturation at 4297-4307 feet. A commercial producer is indicated by swabbing test, but effective acid treatment has been hindered by open hole below 4078 feet.

☆ North Texas

Clay County Has Deep Discovery In Prospect

Clay County has prospective deep discovery southwest of Petrolia uplift; second producer assured for lower pay in Sivells Bend field; Grayson County Ordovician prospect showing oil and gas while unloading for test of Ellenburger.

Grayson County: The Pure Oil Company's Little 1-A, Gordonville prospect, shows promise of making a producer from broken saturation in Ellenburger at 9479-9919 feet with casing at 9205 feet. The well has been unloaded to the 8600-foot level and in running swab to the 9600-foot level the mud contained dark green oil with nominal volume of gas. This wildcat has prospective oil zones in the 9100-foot Simpson and the 7400-foot Strawn.

Cooke County: Sinclair Prairie Oil Company's Thompson 1, north offset to the 6800-foot lower Strawn discovery in the Sivells Bend field, recovered 480 feet of oil-cut mud with bottom hole pressure of 2850 pounds when a drill-stem test was made at 6827-54 feet. This showing is more favorable than the natural flowing offset. Both topped the pay at subsea depths of 5994 feet. Thompson 1 proved dry in the upper sand at 6660-71 feet. Sun Oil Company's Fields 1, scheduled Ellenburger test and 1¼ miles south, was drilling at 2050 feet.

Sinclair Prairie's Best 20, between the Walnut Bend field and the northwest extension Ordovician area, proved dry in the Simpson at 5257-5604 feet, then tested 1600 feet of water from Strawn perforations at 4983-88 feet. A re-test will follow as this intermediate well recovered 2000 feet of oil at 4985-5010 feet prior to exploring the Simpson. The Texas Company's Murrell 1, offsetting production, was testing oil-saturated Snuggs sand at 4764-80 feet.

Cottle County: S. D. Johnson et al's Moss 1, Sec. 5, A. Forsythe survey and 8½ miles southeast of Paducah, was drilling below contract depth at 5485 feet. The Ohio Oil Company is among the active lease buyers in this county, having taken a geophysical option on a 37,000-acre block. This company recently was given geophysical option on the J. Richards 11,540-acre ranch, with the privilege of selecting a minimum of 5000 acres for the drilling of an Ellenburger test.

Clay County: W. H. Hammon et al's Bryans 1, Mary F. E. Simms Survey and a mile east by south of Dean, cemented pipe on bottom at 5905 feet after indicating oil production in Basal Bend conglomerate at 5863-88 feet. A drill-stem test at 5864-94 feet yielded gas to the surface within 12 minutes, and the recovery consisted of 30 feet of oil-cut mud followed by 180 feet of free oil, with bottom hole pressure calculated at 2300 pounds. The Bend was entered at 5594 feet, being 85 feet to a recent 6639-foot failure 2⅝ miles east by north. Considerable lease buying followed the favorable drill-stem test, as the area had not been covered by the earlier play around the flanks of the Petrolia uplift.

Anderson-Prichard Oil Corporation's Wood 2-A, MEP&P Ry. Sec. 12 and south offset to its Wood pool discovery, flowed oil on drill-stem test of Bend conglomerate at 5955-70 feet, and was drilling shale 6090 feet. Pipe will be set near this level to complete through perforations.

Continental Oil Company's Thomas 1, 2 miles north of Newport and 6 1/3 miles southeast of production, was running 5½-inch pipe at 7106 feet in Ellenburger, topped at 6934 feet. A drill-stem test at 6942-54 feet yielded 25 feet of nominally oil-cut mud with some free gas. This zone will be tested and also the Viola, topped at 6742 feet, but a commercial well is virtually assured from the Strawn at 4145-67 feet.

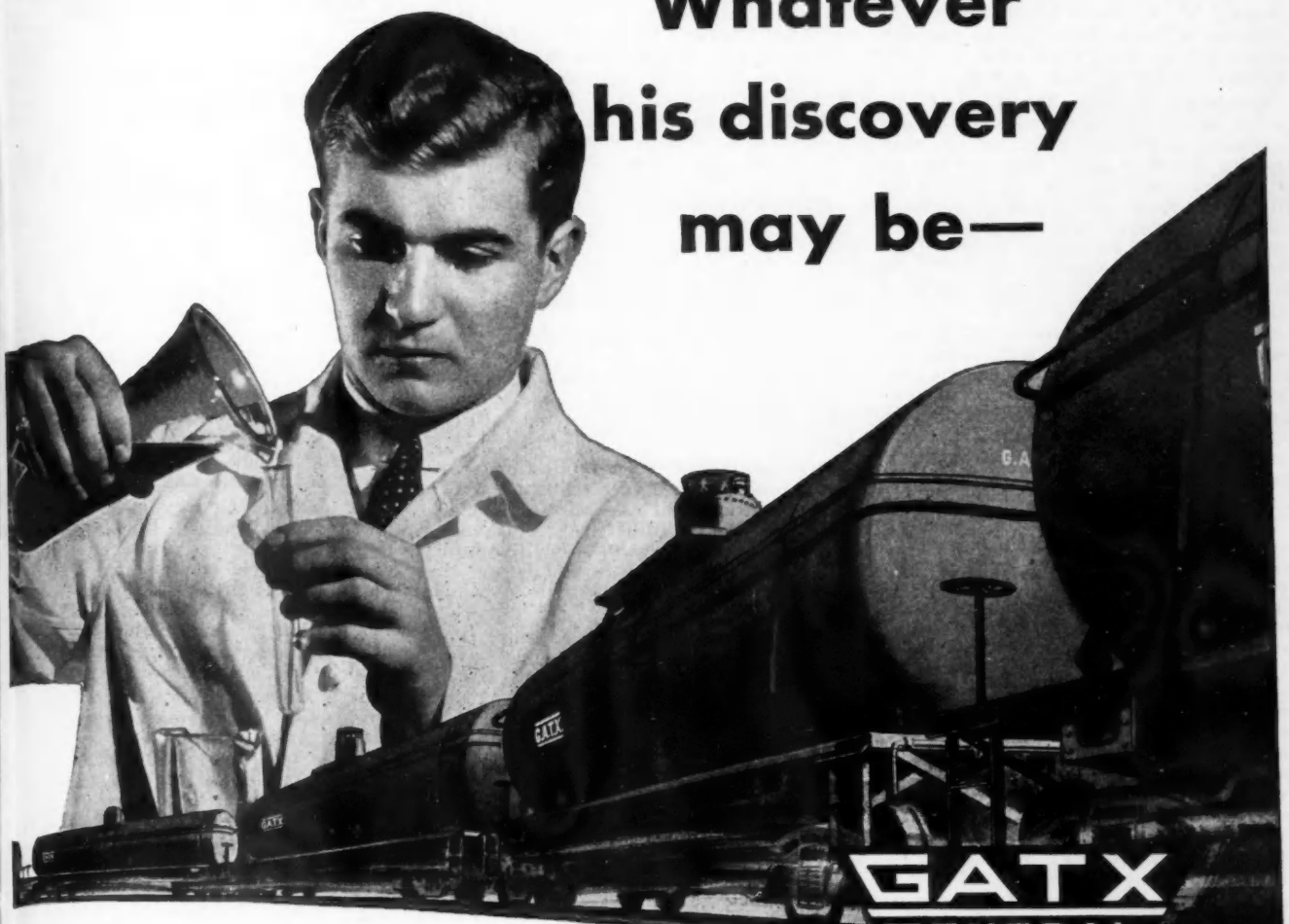
☆ East Texas

Henderson County Wildcat Will Test Travis Peak

Henderson County wildcat will set pipe for production test of Travis Peak; Falls County deep prospect flows salt water on retest; Pickton field, latest deep strike in district, has five active tests.

Deep Tests: H. C. Cockburn et al's Gilliam-Cockburn 1, Stranger faulted structure, Falls County, flowed salt water with nominal show of gas on retest of Buckner perforations at 6922-32 feet, having plugged back from salt at 7606 feet. The Ohio Oil Company's Popper 1, Hunt County Smackover project, was drilling shale with streaks of anhydrite at 8910 feet in Cotton

Whatever his discovery may be—



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Valley, topped at 7043 feet. In Camp County, M. E. Davis et al's Shelby 1, Thomas Williams Survey, was credited with reaching the Travis Peak in drilling dry sand and shale at 8195 feet.

Henderson County: The Texas Company's Morse 1, S. Calderon Survey and 1½ miles southwest of Chandler, was running 5½-inch pipe after drilling to 10,643 feet in Travis Peak, topped at 10,302 feet, being 155 feet high to nearest failure. Some encouragement for production was logged at 10,366-10,378 feet, while thin zone of porosity in Bacon, topped at 9357 feet may be tested.

Hopkins County: Humble Oil & Refining Company has 2 wells awaiting completion in the Pickton field, having drilled W. H. Burns 1 to 7950 feet with 5½-inch casing at 7940 feet. The company's Miller 1, S. Nichols Survey, set pipe after plugging back from 8303 feet to 7950 feet.

Smith County: Phillips Petroleum Company's Hairston-Johnson 1, ¼-mile north of its South Tyler field discovery, was drilling shale at 7305 feet, having entered the Georgetown at 6036 feet. The company's Englander 1, 3½ miles south by west of the discovery and a failure in the Trinity series, was drilling at 11,960 feet on Smackover objective.

Harrison County: Arkansas Louisiana Gas Company has moved in casing for production at Baker 1, wildcat in the Steele survey. The pay string was cemented at 6432 feet. Two porous zones were logged in the Pettit and reports are the well has shown for a gas-distillate.

Nacogdoches County: Magnolia Petroleum Company was rigging up at the Travis Peak wildcat test, Harrell 1, in the William Wray survey, contracted to 8500 feet. It is about 1½ miles southwest of Waterman on 1 of 2 blocks taken by Magnolia within the past year. Gas and water lines were being laid.

Panola County: Humble Oil & Refining Company had its first gas-distillate producer in the making from the Pettit lime in the Carthage gas area as testing began on Pirkle 1, Smith survey, Carthage field. The company first tested at 6200 feet at the bottom part of Travis Peak and got water. The holes were squeezed off and the last set of holes was made at 5780-85 feet. Meanwhile the company was rigging up on another operation, M. J. Calhoun 1.

☆ Southwest Texas

New Sand in Boyle Field Extends Production East

New sand opened in Boyle field, Starr County, to extend production eastward; wildcat staked northeast of Rio Grande City; Webb County wildcat testing.

Starr County: R. D. Farish of Houston (formerly known as the W. H. Holland) Sugarland Industries 1, in the Boyle field, is producing from a new sand to push production eastward. The well flowed 114 barrels of 46.4-gravity oil daily from perforations at 4031-43 feet. Tubing pressure was 290 pounds and casing pressure 975 pounds with gas-oil ratio of 750-1.

K. D. Owen and P. R. Rutherford have spotted location for a 4250-foot wildcat test 12 miles northeast of Rio Grande City. It is the Mrs. B. A. Pierce Unit 1, Porcion 93.

Duval County: M. E. Davis' Alliance Trust Company 1, wildcat in the Realitos area, has been abandoned at 5450 feet.

Webb County: R. F. Schoolfield Killam-Bruni 2, wildcat 8 miles southeast of Bruni, was reported testing after coring a sand around 2780 feet.

McMullen County: Humble Oil & Refining Company has staked 7500-foot test in the Loma Alta-Wilcox field.

Atascosa Wildcat Drills On After Coring Gas Odor

Wildcat in Atascosa County drills deeper after coring sand wildcat faint odor of gas; wildcat test staked in Guadalupe County.

Atascosa County: Gulf Oil Corporation's Adam Tom 1, deep wildcat test 12 miles southeast of the Hobson field, is drilling below 10,400 feet. This well cored from 10,033 feet to 10,043 feet and recovered 4 feet of shale and 1-foot of shale with sand streaks with a faint gas odor.

Humble Oil & Refining Company's R. D. Quillian 2, Imogene field, was drilled to 7708 feet and 5½-inch casing set at 7604 feet for completion.

☆ Lower Texas Coast

Wildcatting on Increase; Texas Producer Complete

Wildcatting shows sharp increase with tests being staked in Calhoun, Victoria, Bee and Hidalgo counties; Humble's deep test in Kenedy County delayed with a fishing job; Texas completes producer at Tijerina.

Calhoun County: Humble Oil & Refining Company has staked an 11,000-foot wildcat 5 miles from Olivia as its Mrs. C. T. Traylor 1 in the Juan Maldonado Grant. The test is in the Wolf Point area.

Victoria County: Butcher-Arthur, Inc., and Taylor Refining Company are preparing to drill a 5000-foot wildcat 7 miles north of Victoria. It is the M. H. Williams et al 1 in the Fulgencio Buene Survey.

Arkansas Fuel Oil Company has staked a wildcat in the Gaffney field area, 5 miles northwest of Fannin. It is the Etta Terrell A-2 in the Miguel Menchaca Grant.

Navarro Oil Company, recently purchased by Continental Oil Company, is preparing to open 2-well wildcat campaign southeast of Telferner in the T&NO Survey, Sec. 6.

Bee County: Four miles east of Beeville, Rowan & Hope have staked a 4300-foot wildcat in the J. M. Planes Survey. It is the J. T. Borroum Estate 1.

Kenedy County: Humble Oil & Refining Company Charles M. Armstrong 2, deep test, is being delayed at 13,369 feet with a fishing job.

Jim Wells County: The Texas Company has completed another large producer in the Tijerina field. The H. C. de Tijerina 21 flowed 227.4 barrels of 39.5-gravity oil daily from perforations at 7132-38 feet.

☆ Upper Texas Coast

Village Mills Field Is Given Oil Production

Oil production established in Village Mills field of Hardin County; second producer at Cold Spring gauged; Gulf to test deep sands in Pierce Junction field, Harris County; pipe set in second well in Sublime field, Colorado County.

Hardin County: The Houston Oil Company of Texas and American Republic Corporation have completed Hardin-Fee 2, to open oil production in the Village Mills field 6500 feet south of the operator's gas discovery well. The Hardin-Fee 2 flowed 297 barrels of 37.1-gravity oil daily through perforations at 5797-5802 feet. Tubing pressure was 835 pounds, casing pressure 900 pounds with a gas-oil ratio of 522-1.

San Jacinto County: Navarro Oil Company has gauged Foster Lumber Company 2, second producer for the Cold Spring field southwest of the discovery well. It flowed 64 barrels of oil daily from the Wilcox sand, from open hole at 7862-65 feet. Tubing pressure was 1950 pounds, casing pressure 1950 pounds with a gas-oil ratio of 5625-1.

Harris County: Gulf Oil Corporation is preparing to test deep sands in its Settegast 1 in the old Pierce Junction field. The well has 5½-inch casing set on bottom at 10,748 feet. Present deepest production is at 6710 feet.

Three miles southeast of Cypress, General Crude Oil Company is preparing to drill a 7500-foot wildcat test. It is the Mrs. Harold Bishop 1 in the W. M. Francis Survey.

Jefferson County: Gulf's Hamshire 2, Fannett field, has set 5½-inch casing at 12,155 feet to test deep sands. Total depth is 12,471 feet.

On the south flank of the Fannett field, Glenn H. McCarthy has staked Mary Weed Fletcher 1, W. H. Smith Survey. Contract depth is 11,500 feet.

Brazoria County: Humble Oil & Refining Company's Joe Korenek et al 1, on the south flank of the Danbury dome, was retesting through perforations at 7801-08 feet after tests at 7950-62 feet and 7984-91 feet recovered only slight shows of oil and gas with some salt water.

Colorado County: The second producer for the Sublime field is seen in the Tide Water Associated Oil Company Albert 1, Northeast offset to the discovery well. The Albert 1 has casing set on bottom at 9530 feet for completion.

The abandonment of Cities Service Oil Company et al's W. Struss 1 at 10,001 feet has limited the Columbus field production to the southwest, being 3400 feet from the discovery well.

☆ South Louisiana

New Sand Is Established For West Tepetate Field

New sand is definitely established in West Tepetate field; discovery well in South Bayou Mallet field retests after making some salt water; Wilcox wildcat staked in Avoyelles Parish.

Jefferson Davis Parish: Barnsdall Oil Company et al's Minos Miller 3 has

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definitely established a new sand in the West Tepetate field. Perforated at 8400-08 feet, the well flowed 1057 barrels of 35.2-gravity oil daily through ¼-inch choke with a gas-oil ratio of 1041-1. In the regular sand at 8523-42 feet the well gauged 661.20 barrels of 36-gravity oil daily on a ¼-inch choke. Tubing pressure was 1200 pounds with a gas-oil ratio of 805-1. Operator was waiting on dual completion permit.

Acadia Parish: Union Sulphur Company's Marvine Kahn 1, discovery well in South Bayou Mallet field, was running a new drill-stem test on perforations at 9610-14 feet after the flow started to show some salt water while testing at 9610-18 feet. Through the latter perforations the well gauged 196 barrels of 33.1-gravity oil daily before salt water started showing. Total depth is 10,320 feet with 5-inch liner set to 9840 feet.

Avoyelles Parish: Don Crosby Drilling Company and Industrial Crude, Inc., have been granted permit to drill Snowden Estate 1, wildcat test 10 miles northeast of Marksville, 22-3n-5e. The wildcat will test the Wilcox sand around 7500 feet.

St. Landry Parish: Sun Oil Company's B. W. Freeland 1, Egan field, has been completed for 168 barrels of oil daily through a ⅛-inch choke from 10,100 feet. Tubing pressure was 1300 pounds.

St. John the Baptist Parish: The Atlantic Refining Company Lutcher-Moore B-2, second test for the Reserve field, has been abandoned with total depth of 10,962 feet. This test is a south offset to company's Lutcher-Moore B-1 which opened Reserve field in January, flowing from 10,254-266 feet.

☆ North Louisiana

Benton Extension Watched As Completion Date Nears

Northwest extension of the Benton area watched closely as completion nears; 9 completions listed, 2 dry; 4 locations staked; production test planned for Caldwell wildcat.

Bossier Parish: Production casing has been set and electrical log run at Vaughn and Hurley's Ellerbe 1, 3-20-13, and the well is being watched closely for date of completion. Depth of the well is 9020 feet. M. H. Sneed has applied for permit to drill a wildcat, Lodwich Lumber Company 1, NEC 29-19n-11w. The drill pipe which was stuck in Barnsdall's Welori Lumber Company 1, 20-20-12, has been recovered and drilling was being resumed below 7425 feet.

Caddo Parish: F. A. Griffin has received a permit to drill Mary Thigpen 1, 25-22n-16w, Caddo field. Phillips Petroleum Company's Leake 1, Longwood area, has been set with casing at 1100 feet. W. B. Johnson Drilling Company has set 7-inch casing to 2360 feet at the Woodbine test, W. P. Stiles Estate B-5, Caddo field.

DeSoto Parish: W. I. Nowling's wildcat, Boone 1, is drilling below 2000 feet. H. C. Owen's L. C. Dickson 1, 23-14-13, was found dry after drilling to 2854 feet. C. M. Bagley's Guy 1, 2-11-13, was also declared dry at 2916 feet.

Natchitoches Parish: Derrick was being erected at the wildcat, Rhodes Unit 1, 33-9-9w, to be drilled by Douglas Whitaker and Robert A. Stacey, and The California Company is moving in on the Nebo Oil Inc., et al, 1, location.

Claiborne Parish: Lyons and Prentiss completed Patton 1, in 36-21-5, with no gauge reported on tests of the Vaughn and Burgess Simmons sands. The Vaughn sand was perforated from 8420 36 feet with 64 shots and test was run with ¼-inch choke on bottom and 3/16-inch on top. Tools were left open 4 hours. Flowing pressure was 2400 pounds and casing pressure 2900 pounds. The Burgess Simmons sand was perforated from 8901-09 feet with 32 shots. The same size chokes were used only they were left open 12 hours. Flowing pressure was 1300 pounds, closed in 2000 pounds.

Richland Parish: Murphy-Sun Oil Company completed J. E. Holt C-1 from perforations at 3280-90 feet with production gauged at 215 barrels of 41.5-gravity oil through 3/16-inch choke. Depth was 3410 feet, gas-oil ratio, 464-1. Gulf Refining Company completed Mrs. Dot Hoover 1 with 95 barrels of 40.9-gravity oil flowing from perforations between 3252-62 feet through 9/16-inch choke. The hole is bottomed at 3344 feet.

Tensas Parish: In the Lake St. John field, California completed H. M. Marks 3 with a flow of 265 barrels of 39.1-gravity oil through 9/64-inch choke from perforations between 9090-9125 feet. Gas-oil ratio is 1000-1. The company also finished G. C. Bennett with 135 barrels of oil flowing per 24 hours. Perforations were made at 8340-70 feet. The oil is 59.2-gravity.

In the Holly Ridge field Magnolia Petroleum Company finished the R. D. Shelley B-5. Perforations were made at 8368-96 feet. Total depth is 8401 feet. Two hundred eighty-eight barrels of 37.5-gravity oil were gauged through a 10/64-inch choke. Gas-oil ratio is 437-1. California staked location for H. M. Marks et al 5, in 42-9-10e.

Union Parish: The only gasser for the week from this area was the completion of the Interstate Natural Gas Company's Fee 165. Gas volume is 1,727,000 cubic feet of gas per day and pressure 797 pounds.

Caldwell Parish: Shell Oil Company's Central Oil & Gas Company 1, C SW SW NW 31-15n-3e, Eros area, tested dry after re-squeeze of perforations from 6530-33 feet and was preparing to perforate from 11,558-582 feet for a production test. The wildcat is a probable opener of gas or gas distillate production, which was indicated in commercial quantity up the hole.

☆ Arkansas

Columbia Test Completed; Four Locations Staked

Columbia County well completed; several others testing; four locations staked.

Columbia County: Placid Oil completed Whitlow-Groves 1, C N½ 28-18s-21w, directly between 2 dry holes of the Macedonia field, at a total depth of 8446 feet. Oil was flowing from perforations between 6814-20 feet in the Cotton Valley with 24 shots on the drill-stem test. The bottom choke was ¼ inches and a 1/16-inch choke was used on top. Tubing pressure was 500 pounds. Phillips Petroleum Company's Cloette 1,

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March 31, 1945

RESOURCES

Cash and Due from Banks	$35,526,804.20	
U. S. Government Securities	70,217,086.69	$105,743,890.89
Other Bonds and Securities		4,207,964.21
Loans and Discounts		17,479,192.55
Federal Reserve Bank Stock		150,000.00
Income Earned, Not Collected		297,571.71
Bank Premises		853,636.60
Furniture and Fixtures		1.00
		$128,732,256.96

LIABILITIES

Deposits		$121,583,028.29
Income Collected, Not Earned		52,332.39
Taxes, Interest and Expense—Accrued		395,921.99
Dividend Declared (Payable June 15, 1945)		40,000.00
Capital	$ 2,000,000.00	
Surplus	3,000,000.00	
Undivided Profits and Reserves	1,660,974.29	6,660,974.29
		$128,732,256.96

This is the first of our quarterly statements published pursuant to policy adopted January 1, 1945, and announced in our annual report.

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THE RECORD AT A GLANCE

SUNRAY ASSETS total $33,507,877. The company is owned by 20,000 stockholders and operated by 500 employees.

In 25 years Sunray stockholders have received $5,705,477 in cash dividends, and 6 dividends paid in common stock. In 1944 dividends of 20 cents per share were paid on the common stock.

Of each net dollar earned in 1944 holders of common stock received 36 cents, preferred stockholders 12 cents, and 52 cents was retained in the company.

TAXES took 30 cents of every gross dollar earned in 1944, averaging 23.2 cents for each share of common stock.

In 1944 SUNRAY opened 5 new oil pools in Kansas and Oklahoma.

Company owned pipelines, totaling 115 miles, delivered 1,949,111 barrels of crude oil to its refinery.

SALES of refined products, including aviation naphtha, codimer, paraffinic naphtha, military and civilian gasoline, and industrial fuel oils increased 9.5% over 1943.

GROSS INCOME for 1944 was $11,361,293 compared to $7,813,454 in 1943. Net earnings in 1944, after estimated taxes, were $1,543,505, or 48.14 cents per share on 2,778,384 shares of common stock of $1 par value.

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The idea of the small group of original incorporators was to build the little company, with total assets of half dozen oil wells and 2,000 acres of undrilled leases, into a solid, vigorous, integrated, and wholly independent oil company.

Daily crude oil production nearing 18,000 barrels in 1944 from 1800 wells on 490 leases covering 37,490 acres is evidence of Sunray's constant but unspectacular growth under the American system of free enterprise.

Of 110 wells drilled or participated in by the company in 1944, 77 were producers, 33 dry. Undrilled acreage in 13 mid-continent states totals in excess of 400,000 acres. Sunray's production of petroleum for the year amounted to 5,656,729 barrels.

The volume of fuels vital to victory, components of 100-octane aviation gasoline, was increased by the company in 1944 with the installation of additional facilities at its modern, 12,000-barrel refinery in Oklahoma. Postwar, however, these facilties will enable the company successfully to compete with larger catalytic cracking plants in the manufacture of high-octane civilian gasoline.

Reconversion to peace-time operations, obviously, will not present the major problem to the oil industry that it will to the many industries engaged in the manufacture of war equipment.

same field, set production pipe at 9030 feet, total depth 9038.

In the Haynesville extension, Midstates Oil Company was rigging up for Taylor-Partee Wilson Unit 1. In the Village field Bradham and Ragsdale's Booth Unit 1, erroneously reported abandoned, was testing after having been bottomed at 7396 feet.

In the Stephens field, Durbin Bond's Wesley A-3, perforated between 3960-68 feet with 24 shots and again between 3946-55 with 32 shots, swabbed and recovered 5 barrels of fluid per hour, of which 8 percent was brackish. It was being swabbed again.

T. W. Lee is to drill J. P. Weaver 2, in C SE NE NE 13-15-20w, and J. P. Weaver 4 in C SE SE NE 15-15-20w, both in the Stephens field. Hassie Hunt, Trustees, and Tide Water Associated Oil Company and Seaboard Oil Company will drill Pittman-Sanders 1 in C SW NE 17-18-19, Village field.

Ouachita County: R. H. Crow, Trustees, is to drill H. D. Brown B-1, 230 feet south and east of NW C 18-15-19, Stephens field. Haynes B. Ownby was testing J. W. Smart B-3, after setting 5½-inch casing at 4422 feet. G. H. Vaughn completed J. F. Smart C-4 as a 200-barrel producer on pump. Perforations were made with 24 shots between 3904-10 feet.

Wildcats: Mayfield Drilling Company was below 5180 feet at Woodward 1, Columbia County. G. H. Vaughn drilled shale and limestone at 4300 feet at McKissack 1, also in Columbia County. Tide Water was drilling below 5220 feet with the first string of pipe set around 3200 feet at Grace Griffin 1, about ½ mile east of Milltown.

Pope County: Stanolind Oil & Gas Company cleaned up a fishing job for drill pipe at 4696 feet in G. B. Maxwell 1, C SE SE 18-8n-18w, and is reported below 4832 feet. The wildcat is considered important for the area, but has encountered no showings this far, and will seek production to the Arbuckle lime.

☆ Southeastern

Test in Jasper Completed, Flowing 113 Barrels Daily

Jasper County test completed; Humble's Jefferson test has shows in Wilcox; Lamar County test flows 695 barrels in 24 hours; operations begun by Marion County wildcat headed for Tuscaloosa.

Jasper County: Gulf Refining Company's Carrie Husband A-1, 29-1n-13e, Heidelberg field, has been completed with an initial production of 113 barrels of oil per day. Production is from perforations at 4770-84, 4874-78, and 4907-12 feet. In the same field Gulf-Hamill abandoned Rowell Unit 2, 30-1n-13e, in the Tuscaloosa sand at 5148 feet. The well had only showings of very heavy oil with considerable salt water in the Eutaw horizon.

In the West Heidelberg field Magnolia Petroleum Company's Herrington-Windham 1, 35-1n-12e, drilled to 5274 feet in the Christmas sand with no shows. The well was perforated at 4912-34 feet and was swabbing. Almost as many dry holes are being drilled as there are producers due to the complexity of the faults in the area. The strike of the various faults has been difficult to determine even though displacement is not as great as in the east portion of the field.

Jefferson County: Humble Oil & Refining Company's M. R. Smith 1, 12-9n-1e, wildcat headed for the Tuscaloosa, is drilling below 7420 feet in black shale. Cores taken in the Wilcox zone indicated light oil stain and gas, but quantities of salt water with no shows have been encountered further down the hole at 6343 feet.

Jeff Davis County: The Superior Oil Company's Alex Thompson 1, 21-9n-18w, a mile east of gas-distillate production in the Gwinville field, has run electrical log and taken 14 sidewall cores at 11,648 feet with no shows.

Lawrence County: Humble's V. L. Parkman 1, 8-6n-20w, recovered drilling mud and salt water in a drill-stem test at 2782-2825 feet. It is drilling below 2932 feet in sandy shale.

Lamar County: Gulf Refining Company's G. M. Andrews 1, 6-1n-16w, in the Baxterville field, flowed 695 barrels in 24 hours with a gas-oil ratio of 1100-1 on drill-stem test. Production came from perforations at 8756-66 and 8774-94 feet in the Massive sand zone. The test tool has been pulled and casing perforated at 7766-82 feet preparatory to a drill-stem test of the gas-condensate sand prior to a dual completion of the well. Sun Oil Company's Snowden 1, 7-1n-16w, east offset to the Baxterville discovery well, has run electrical log to 8012 feet and picked up base of chalk at 7510 feet, which is approximately 100 feet lower than Cooper 1. Slight shows of condensate have been encountered farther up the hole and the well was preparing to core at 8580 feet.

Marion County: Union Producing Company's C. J. Harlen 1, 1-14n-3e, wildcat scheduled for the Tuscaloosa, has begun operations and was waiting for cement on surface casing at a total depth of 420 feet. The Texas Company's L. E. Ladner et al 1, 12-1n-17w, in the Baxterville field, is building derrick and moving in rig.

Wayne County: Gulf's Lun Woodard 1, 6-9n-8w, in the Eucutta field, has recovered 3000 feet of 20-gravity oil from a drill-stem test with packer at 5040 feet. Production came from perforations at 5072-78 feet. Pump was being installed. Lyons & Prentiss' T. F. Reynolds 1, 18-9n-8w, in the Eucutta, is building tanks and preparing to install pump after reaching 5264 feet.

Yazoo County: Southern Natural Gas Company's Gammill Investment Co. 1, 5-9n-4w, has swabbed 14.6-gravity oil and salt water from perforations at 6766-78 feet. Previously a drill-stem test at 6750 feet recovered 25-gravity oil and salt water and mud. The well was shut down waiting orders. Union's Jennie Stevens 21, 12-10n-3w, deep test in the Tinsley field, recovered hard gray sand with streaks of black shale in cores at 7644-49 feet. In a drill-stem test at 7473-83 feet, only mud cut with oil was recovered.

Alabama

Hunt Oil Company's H. G. Smith 1, 34-11n-4w, in the Gilbertown field of Choctaw County, has been completed, pumping 75 barrels per day. The well reached 2626 feet and plugged back to 2561 feet.

Walker County: Glen D. Rose Oil & Gas Company's Ulysses 1, N½ NW SE 6-13s-6w, reached 1095 feet and was preparing to run casing.

Washington County: Wayne Refining Company's Willie Mitchell 1, SEc NW NE 12-8n-3w, has erected derrick and is moving in material for a wildcat test in this location.

Winston County: Glen Rose's Boshell 1, NW NE 18-12s-8w, is still shut down at total depth of 2004 feet. The well is estimated good for 4,000,000 cubic feet of dry gas, with no salt water in evidence.

In the leasing play now going on in Alabama, 2 tests have been contracted for and will get under way in the next month. Sam Reed et al are planning a 7500-foot wildcat test on a gravity meter prospect in 24-2n-1e, Mobile County; Davidor & Davidor are due to start a 5000-foot wildcat test in 18-12n-1e, Marengo County. The 5000-foot depth is expected to reach the Upper Cretaceous. The test is 20 miles northeast of the Gilbertown field,

Georgia

Tropic Oil Company's Gibson 1, wildcat 5 miles southwest of Lyons, Toombs County, is drilling below 3100 feet with no shows.

Florida

Most wildcats were on the active list in Florida. Humble Oil & Refining Company's Gulf Coast Realties 4, deep test in the Sunniland area of Collier County in 20-48s-30e, is drilling below 10,825 feet in anhydrite and lime, without shows.

Charlotte County: Humble's Lowes-Treadwell 1, C SW NE 17-42s-23e, cemented 26-inch conductor pipe and is drilling below 692 feet in lime and shell, and reaming.

Highlands County: Humble's G. C. Carleton Estate 1, C SW NE 34-38s-29e, was waiting on wash pipe at 6701 feet in chalky lime.

Bay County: The state's newest wildcat, Magnolia Petroleum Company's State 4-B, C SW SW 21-3s-15w, is building roads.

Gulf County: The Pure Oil Company's Kate Gaskin 1, NWc NE NW 19-5s-9w, was shut down at 440 feet waiting to complete water well.

☆ California

Del Valle Area Test May Prove New Discovery

Lost Hills deep test shows trace of oil; deep test near Trico gas field being prepared for test; Del Valle area test may be discovery.

Kern County: Standard Oil Company of California's Cahn 58-4, deep test in the Lost Hills area, flowed hot salt water, a trace of oil and considerable gas with packer set at 8655 feet, formation open to 8770 feet. The hole has been cored to 8791 feet and more will be made before another production attempt.

M. T. Gruff's deep test, 4 miles southeast of the Trico gas field, was drilled to 11,200 feet, where a string of 7-inch casing was landed and cemented. Prep-

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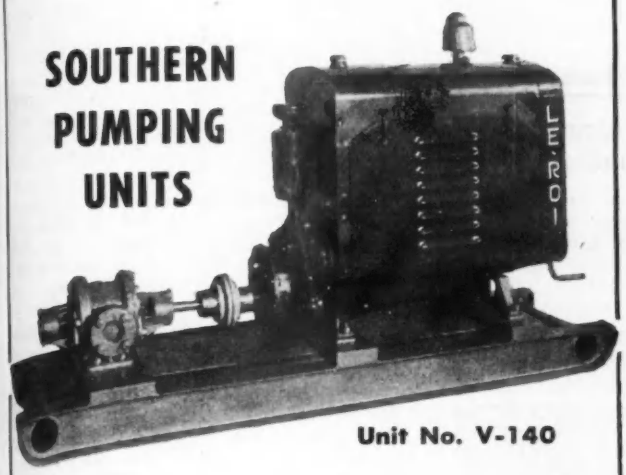

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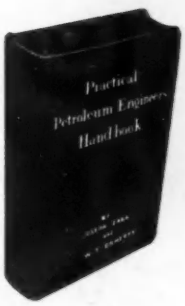

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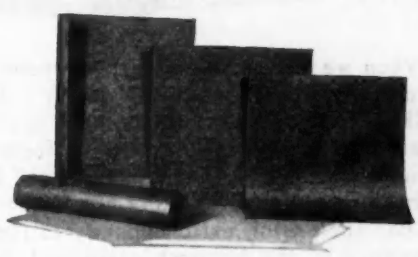

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arations were being made for a production test after gun perforations, squeezing above and below perforations.

The Superior Oil Company's Houchin 74-34, in 34-31-26, landed and cemented 11,815 feet of 7⅝-inch casing, using 1980 sacks of cement. This outpost of the Paloma field to the north picked up the oil sand at 11,212 feet.

Los Angeles County: Shell Oil Company's Reyes 15, deep test in the old Dominguez field, had reached 12,455 feet when the drill pipe stuck at 12,407 feet. Oil was being circulated.

The Texas Company's Kern 1 in the Del Valle area may prove to be a new discovery, according to electric log and side wall samples. Formation tester was also run. Hole has been drilled to 3114 feet, and was coring. Best showings were found below 2900 feet.

Glenn County: Richfield Oil Company is grading location for Afton Comm. 2-1, in the Butte City area, in 34-19n-1w, strictly-wildcat territory. Oil or gas production is sought.

☆ Rocky Mountain Area

Sheldon Dome Wildcat Has Showing in Embar

Sheldon Dome wildcat finds showing of oil in Embar formation; Tensleep and Embar hold promise in second well at Half Moon; newly discovered saturation at South Elk Basin now increased to more than 160 feet; wildcats over wide area rigging up.

Wyoming

Continental Oil Company's Unit 3 at Gebo Dome, Hot Springs County, in NW 23-44n-95w, after testing the Tensleep sand from total depth of 5103 feet, plugged back to 4720 and completed in the Embar formation for 109 barrels per hour.

Continental's Unit 5 was perforated from 4582-4694 feet and swabbed and flowed 400 barrels per day. Testing will continue after acid treatment. Location for Unit 6 is being graded in SW NE NW 23-44n-95w.

Park County: At Half Moon structure the Husky Refining Company's Morrison 2 entered the Tensleep at 3539 feet and recovered a 6-foot core of well-saturated sand. Previous drilling had encountered saturation in the Embar topped at 3342 feet, where the well was logged as nearly 100 fet higher structurally than Morrison 1, discovery well in the Embar formation. Seven-inch casing was being run to the Tensleep.

In South Elk Basin, Continental's Goodstein 1, NE SE SW 20-57n-99w, entered the Tensleep at 6961 feet, and was still coring saturation at 7116 feet. A drill-stem test from 7061-7091 feet, open 15 minutes, recovered 4000 feet of clean oil in 3½-inch drill pipe, indicating an estimated daily production of 2784 barrels with a flowing pressure of 2000 pounds.

Kinney Coastal-Ohio Oil Company's 11 at Garland field, NW NE NW 24-56n-98w, drilled the Madison limestone top at 4544 feet with cores showing good saturation. A drill-stem test from 4569-4585 feet, open 1 hour, recovered 390 feet of oil and 180 feet of oil-cut mud. This is the first Madison saturation to be tested in the north end of the Garland field. Coring will be continued through the Madison section.

Carbon County: Wasatch Refining Company has rigged up for a wildcat test, Dixon 1, SW NE NE 23-19n-78w, Arlington area, located on a trend between the Rock River and Cooper Cove oil fields. Drilling is expected to test the Cretaceous sands which are productive to the north and south.

Weston County: A second test in the Mush Creek pool, discovered last year, is under way with Frank Eblem Syndicate's Govt. 1, SE SW NW 24-44n-63w, drilling below 700 feet.

Uinta County: Unit 1, being drilled jointly by Mountain Fuel Supply Company and Union Pacific Railroad, was drilling at 4058 feet in a test expected to reach the Frontier sands below 11,000 feet.

On the southeast flank of the Elk Basin field, MacKinnie's N.P. R.R. 12, NE NW SE 5-57n-99w, is a failure after going through a faulted down block in the Dakota at 4870 feet and drilling dry formations to 5975 feet.

Colorado

Production has been extended north on the long broad Rangely anticline with the completion of Stanolind Oil & Gas Company's Hagood 1, C NE SE 23-2n-103w, which flowed 34.3-gravity oil at the rate of 420 barrels per day through a 1-inch choke with 175 pounds pressure. Stanolind's Rector 1, NE SE 34-2n-102w, southeast extension, found the Weber at 5624 feet, where 7-inch casing was set and 57 feet of saturated cores have been recovered to 5686 feet.

Rio Blanco County: Stanolind's Scott 1, C NE NW 20-1n-93w, Meeker Dome, wildcat test to the Weber, is rigged up with rotary and spudding has commenced.

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☆Michigan

Mecosta County Well Dies After Flowing on Test

Smith Petroleum Company's Ortwein 1, SE NW NE 7-14n-7w, Wheatland Township, Mecosta County, flowed 46 barrels oil in 1 hour and 15 minutes and then died following drilling of cement plug on 5-inch casing and deepening 3 feet to 3688. Before casing was set the well had made 146 barrels in 4 days by intermittent flows. Operator plans to pump and probably acidize. Failure of the well to flow took off some of the early excitement and interest surrounding this wildcat play. Production is from Dundee lime-dolomite topped at 3684 feet.

Osceola County: Sun Oil Company's State B1, S½ NW NE 10-18n-9w, Cedar Township, rates discovery recognition in the Dundee at a plugback depth of 3952 feet. Pay is in the top at 3944-45 feet. After 500 and 1000-gallon acid treatments it pumped 18 barrels of oil. The wildcat is 3 miles north of the old Cedar pool. A state-owned lease offsetting the discovery commanded only a $10 bonus last week, indicating the producer is not viewed highly.

☆Illinois Basin

Hamilton County Test May Become Pool Opener

Hamilton County, Illinois, test may be pool opener; White County test is discovery in Cypress; Magnolia has discovery in Marion County; test near Mattoon abandoned.

Hamilton County: Tide Water Associated Oil Company's Johnson 1, SE SE NW 33-6s-5e, approximately 2 miles west of the South Rural Hills pool, was waiting on cement with 5½-inch casing set at 3210 feet. Saturation was found in the Aux Vases sand at 3238-44 feet and promised to produce 150 to 200 barrels of oil per day to open a pool. The well is 8 miles southwest of McLeansboro.

White County: T. B. Dirckson's Grant 1, NE SW SW 36-6s-9e, wildcat 2 miles southeast of production in the Herald pool, is a discovery in the Cypress sand at 2638-42 feet. The potential yield is estimated at 50 to 75 barrels daily. Operators are drilling to test McClosky lime before completing in the Cypress.

Marion County: Magnolia Petroleum Company's Robinson 1, NW SE NW, approximately 12 miles northeast of Salem, is a discovery in the McClosky lime. Saturation was encountered at 2786 feet, to which depth 5½-inch pipe was set. Operators estimate production at 100 barrels per day.

Franklin County: Nash Redwine and others were preparing to test Aux Vases sand at Franklin County Mining Company 1, NW NE SE 11-7s-4e, a wildcat. Pay was found at 3181-90 feet. Total depth is 3362 feet.

Jasper County: Sun Oil Company's Yost 1, NE SW SE 7-5n-14w, wildcat near Newton, was fishing for drill pipe twisted off at 2682 feet.

Shelby County: Phillips Petroleum

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Company was preparing to move rig to Dove 1, SE SE NW 9-9n-4e, wildcat near Shelbyville. The Carter Oil Company and The Ohio Oil Company are reported supporting the test. Another wildcat is slated for a location in the area soon.

Coles County: Kuehne Manufacturing Company's Kuehne 1, SE NE 23-12n-7e, just outside the south city limits of Mattoon and approximately ½ mile north of production in the Mattoon pool, has been abandoned as dry at 2037 feet in St. Louis lime. Saturation too tight for commercial production was found in the Aux Vases sand.

Two new wildcat locations are due to be announced soon in the Cooks Mills area where light production was recovered more than a year ago.

☆ Canada

First Standard Followup Of Princess Strike Fails

Standard Oil Company of California has missed on its first attempt to follow up its Devonian Dolomite oil strike at Princess, but is proceeding immediately with a new test. Princess-C. P. R. 58-22A, has been staked in the northeast 10 acres of lsd 14 22-20-12wd, ½-mile due east of the discovery, ¼-mile due east of the company's No. 1 (which showed oil and gas in 1940 but was lost due to mechanical difficulties) and ¾-mile north of the Princess-C. P. R. 76-22A, which has been abandoned at 4178 feet. The latter well logged lower than had been anticipated, showed water in the Devonian horizon from which the discovery is producing (currently flowing 100 barrels daily of 34.5-gravity oil).

Standard's Conrad-Province 71-4-A, lsd. 4 4-6-15w4, has completed at 2944 feet after topping Ellis sand at 2936 feet. A 1 hour drill-stem test showed a rise of over 500 feet of 27 gravity oil, and the well is expected to rate about 75 barrels daily on pump. The extension is ¼-mile east of the company's discovery 2 well, and ¼-mile north of the successful 77-33B well. (No. 2 is currently pumping about 100 barrels daily and 77-33B about 165 barrels daily.)

Mid-Continent Oil & Gas Company and East Crest Oils' 2, north offset of this team's Conrad area discovery well, has completed drilling at 3191 feet after topping the Ellis sand at 3178 feet, and has set 7-inch casing at 3164 feet. While oil saturation showed, the sand is tight. The zone will be shot in an effort to develop production. Site is lsd 7 8-6-15w4. The discovery 1 well, which pumped a flush 300 barrels daily, will be operated at 225 barrels daily.

May Sell School Lands

Representative Wallace G. Hughes of Guymon, Oklahoma, has prepared a bill for presentation at the current session of the Oklahoma State Legislature, which would permit the School Land Commission to sell 212,000 acres of school land in Cimarron County, sale of which was prohibited in early statehood because of its apparent mineral value. Under the proposed legislation all or a portion of the mineral rights would be reserved in the event of sale.

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EXPLORATORY COMPLETIONS

ARKANSAS WILDCAT

Ouachita County — Failure: G. H. Vaughn's J. F. Haltom 1, ne ne se 28-15s-18w, elev 155 ft, Nacatoch sd showed gas 1905-55 ft, Tokio 2478 ft, Buckner 5862 ft, Smackover 6133 ft, perf Tokio 24 shots 2475-85 ft, swab 40 bbls, began making sw, temp abnd 6264 ft.

CALIFORNIA WILDCATS

Kern County—Failures: Mahawk Pet. Co.'s Layman 1-18, 18-28s-20e, Antelope Hills area, trace oil, abnd 1371 ft.

Richfield's Hood-Bloomer 2, 26-28-27, Kern Fron area, abnd 2322 ft.

Rothschild Oil's Nunes 1, 25-25s-27e, Jasmine area, abnd 2050 ft.

Texas Co.'s KCL-Pioneer 77-32, 32-29s-25e, Canal area, Stevens 9432 ft, abnd 9766 ft.

Kings County—Failure: Pacific O&G Co.'s 32-17, 17-24s-18e, Pyramid Hills area, abnd 811 ft.

Madera County—Failure: Lowry R. Lytle's Burkhart-Greer 1, 35-12s-16e, Firebaugh area, abnd 5125 ft.

San Luis Obispo County—Failure: Amerada's Tar Springs Ranch 1, 25-32s-14e, Huasna area, abnd in hard shale 5440 ft.

COLORADO OUTPOST

Rio Blanco County — Rangely Extension: Stanolind's Hagood 1, c ne se 23-2n-103w, Weber sd 5955 ft, elev rt 5464 ft, flow 420 bbls, 34-gr, 1-in, tp 175 lbs, td 6555 ft.

ILLINOIS WILDCATS

Bond County — Failure: A. M. Scroggin's Mason 1, nw nw sw 19-5n-3w, abnd 560 ft.

Franklin County—Failure: Schuller & Witt's Stalcup 1, ne ne sw 18-5s-3e, abnd 3104 ft.

Lawrence County — Failure: Parriott & Sprouls' Southern 1, nw sw ne 2-4n-12w, abnd 1158 ft.

Madison County—Failure: Joe Kesl Jr.'s Whitmore 2, se sw se 24-5n-6w, abnd 1994 ft.

Marion County—Failure: Magnolia's Neal 1, se se se 33-4n-4e, abnd 2536 ft.

Wabash County—Failure: Walter Duncan's Woolard 1, nw sw ne 36-1s-13w, abnd 2695 ft.

Washington County — Failure: James N. Harsha's Kinkel 1, sw nw ne 35-3s-2w, abnd 1340 ft.

INDIANA WILDCATS

Posey County—Failure: Texas Co.'s Schmidt 1, ne ne ne 5-5s-13w, abnd 3161 ft.

Sullivan County—Failure: Roy Myers' Wisenor 2, sw ne ne 8-8n-10w, abnd 2700 ft.

KANSAS WILDCATS

Barton County—Failure: W. L. Hartman's Southern 1, se se sw 3-20s-12w, Lans 3113 ft, Cong 3399 ft, Arb 3419 ft, abnd 3460 ft.

Ellis County—Discovery: Darby & Bothwell's Richards 1-A, se se sw 6-11s-18w, Lans 3378-88 ft, perf 72 shots, pump 100 bbls, td 3388 ft.

Lush County—Failure: B&R Drlg. Co.'s Brack 1, se se nw 4-17s-17w, Lans 3340 ft, granite 3587 ft, abnd 3594 ft.

Russell County—Failure: Co-op's Bear 1, sw se ne 13-12s-14w, Arb 3507 ft, abnd 3535 ft.

Stanton County — Gas Discoveries: Stanolind's CC&P 1, c sec 31-28s-39w, Herrington-Krider 25,000 gals acid 2386-2530 ft, flow 4,887,000 gas, td 2627 ft.

Stanolind's Col-Mac 1, c sec 32-30s-39w, Herrington-Krider 27,000 gals acid 2619-2725 ft, flow 9,495,000 gas, td 2725 ft.

Sumner County—Failure: Carter's Sumpter 1, c sw sw 10-33s-4w, Simp 4499 ft, Arb 4637 ft, abnd 4743 ft.

NORTH LOUISIANA WILDCAT

Bossier Parish—Failure: M. H. Sneed et al's Lodwick Lbr. Co. 1, 330 fr sl 100 fr el 29-19n-11w, abnd 615 ft.

SOUTH LOUISIANA NEW PAY TESTS

Acadia Parish—Egan Discovery: Sun's B. W. Freeland 1, s 80° 42 mins e 3353, n 9° 08 mins e 665 fr swc 38-9s-1w, perf 8 shots 10,102-04 ft, flow 170 bbls 38.1-gr oil, 0.2% wtr, ½-in, tp 1300 lbs, gor 726/1, td 10,660 ft.

Jeff Davis Parish—W. Tepetate Discovery: Barnsdall's Minos Miller 3, 3520 n fr swc sect 31 165 e of wl sect 31 933 s 71° e of No. 2 on same lse in 31-7s-2w, dual comp: perf 8400-08 ft, new pay, flow 1057 bbls 35.2 gr, ¼-in, cp 1100 lbs, gor 1041/1; perf 8523-42 ft, flow 661.20 bbls 36-gr, ¼-in, tp 1200 lbs, gor 805/1, td 8572 ft.

St. Martin Parish — St. Martinville N. Flk. Discovery: Continental-Standard of Kansas' Liquidators 1, 990 ne of swl 990 nw of sel 261.23-ac tr in 135-10s-6e, gas sd 9692-9740 ft, perf 9750-65 ft, flow 58 bbls 48-gr, 12/64-in, tp 3750 lbs, gor 33,689/1, td 11,428 ft.

MICHIGAN WILDCATS

Gratiot County — Failure: Fisher-McCall's Wright 1, sw sw sw 36-9n-4w, abnd 2690 ft.

Roscommon County — Failure: Sun's State B-1, n½ nw nw 24-21n-4w, abnd 5402 ft.

Saginaw County—Failure: Turner Pet. Co.'s Dietrich 1, nw nw ne 35-12n-5e, abnd 3021 ft.

Allegan County—Failure: Harris Oil Co.'s Freeman 1, sw se nw 30-4n-13w, abnd 1690 ft.

Clare County—Failure: Pure's Wendergen 1, sw se 6-20n-6w, abnd 5422 ft.

Clinton County—Failure: Union Dr. & Prod. Co.'s Piggot 1, se se sw 30-8n-3w, Monroe 2916 ft, abnd 3045 ft.

Osceola County — North Cedar Discovery: Sun's State B-1, s½ nw ne 10-18n-9w, elev 1334 ft, Dundee 3944 ft, pay 3945 ft, acid 555/1000 gal, pump 16 bbls, td 4067 ft, pb 3952 ft.

Van Buren County—Failure: Fox Hole Oil Co.'s Ralph 1, nw ne ne 34-1s-13w, abnd 1360 ft.

MISSISSIPPI WILDCATS

Desoto County — Failure: Union Producing Co.'s F. T. Withers Estate 1, 3514 ft n 687 ft e swc 18-2s-9w, abnd 4884 ft.

Jones County—Failure: Ginther, Warren & Ginther's Mrs. Florence Mitchell 1, 330 ft s&w nec sw 23-6n-12w, abnd 8762 ft.

Warren County — Failure: Magnolia's Feld Estate 1, 446 ft s 662 ft e nwc 3-16n-4e, abnd 8262 ft.

MISSOURI WILDCAT

Jackson County—Failure: Charles Smith's Fee 1, nw se se 29-27n-33w, abnd 965 ft.

MONTANA WILDCAT

Pondera County—Failure: G. J. Keil's Keil 1, se se ne 1-28n-1w, sd 1770-1794 ft, Ellis sd 2017 ft, 1300 ft sulfur water in hole, abnd 2041 ft.

NEW MEXICO WILDCAT

Eddy County—Gas Discovery: Nipper and McKinney's State 1, c sw sw 21-20s-28e, elev 3234 ft, anhy 415 ft, top li 507 ft, pay 685-740 ft, 3,060,000 gas open flow, td 933 ft, pb 740 ft for 100-qt nitro shot 665-750 ft.

OKLAHOMA WILDCATS

Cleveland County—Failure: Amerada's Carpenter 1, sw ne nw 17-6n-1e, abnd 6749 ft.

Creek County—Failure: Black Jack Oil Co.'s Jackson-Harper 1, ne se nw 32-18n-10e, Wx 3052 ft, abnd 3410 ft.

Ellis County — Failure: Sinclair-Prairie's Berryman 1, ne ne ne 3-17n-24w, abnd 4282 ft.

Noble County—Failure: Sungold Oil Co.'s Stransky 1, sw sw nw 35-24n-1w, abnd 2254 ft.

Stephens County—Failure: Magnolia's Neal 1, nw nw nw 27-1n-4w, abnd 5700 ft.

WEST TEXAS WILDCATS

Pecos County—Failure: G. F. Aldrich et al's Barnes-Shell 1, 330 ft out n cor of e¼ H&GN Ry. 138, blk 10, elev 2398 ft, anhydrite 565 ft, top lime 674 ft, abnd 1835 ft.

Runnels County—Oil Discovery: O. P. Leonard et al's Livington 1, 660 ft out sec sect 110, J. H. Parramore sur, 5⅝ miles w by n of nearest oil production, elev 1865 ft, flow 206 bbls, gor 530/1 via 2-in, acid 6500 gals 3015-30 ft, td 3085 ft, pb 3030 ft.

WEST TEXAS NEW PAY TESTS

Andrews County—Parker Failure: Honolulu-Woodley's Parker 2-B, c se se PSL 9, blk A-43, Yates 3140 ft, brown li 4160 ft, San Andres 4540 ft, abnd 6116 ft.

Gaines County—Russel Shallow Oil Discovery: Shell's Jones 2-A, c sw ne sect 490, blk G, CCSD&RGNG sur, flow 327 bbls 32-gr oil, 2.8% wtr, ½-in, gor 184/1, 8500 gals acid Upper Clear Fork perf 6090-6140 ft, td 7775 ft, pb 6145 ft.

Gaines County—Robertson Deep Oil Discovery: Texas Co.'s Robertson 2, c ne ne PSL 21, blk A-24, elev 3315 ft, Yates 2855 ft, brown li 3940 ft, San Andres 4410 ft, Glorietta 5840 ft, Upper Clear Fork 6360 ft, flow 363 bbls 29.1-gr, 10% wtr, gor 612/1, nat fr Upper Clear Fork 6360-6420 ft, td 6455 ft.

Winkler County—Wheeler-Ellenburger Upper Discovery: Sun's Wheeler 1, c ne se PSL 13, blk B-7, offset Ellenburger wells, elev 3075 ft, San Andres 4150 ft, base Permian 7870 ft, Devonian 8348 ft, Silurian 8830 ft, Fusselman 9095 ft, Ellenburger 10,560 ft, flow 371 bbls 34.3-gr (0.85% sulphur, 0.092% salt) oil, gor 1070/1, ¼-in, 2000 gals acid in Devonian (new pay) perf 8450-90 ft, dual comp: flow 590 bbls 44.2-gr sweet oil, gor 1240/1, ¼-in natural, fr Ellenburger perf 10,560-10,600 ft, td 10,610 ft.

WEST TEXAS OUTPOST

Ector County—TXL Field Extension: Rowan Dr. Co.'s T. P. Land Trust 1, c nw se T&P Ry. 29, blk 45, T-1-S, 2⅞ mi se of disc in same zone, elev 3258 ft, Yates 2720 ft, San Andres 4130 ft, Glorietta 5121 ft, Clear Fork 5420 ft, Tubb sd 5970 ft, base Permian 7720 ft, Detrital 7720-7818 ft, Devonian 7826 ft, flow 2112 bbls, ¼-in, 1000 gals acid Devonian perf 7826-7916 ft, td 7970 ft.

WEST CENTRAL TEXAS WILDCATS

Brown County—Failures: W. D. Brookover-H. R. Burden's Weaver 1, 1565 ft snl 1655 ft

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3—EKH Waukesha Engines with starting engine
1—66″ National Traveling Block
1—6″ National Hook
1—23″ Mod. 12 National Rotary Table
1—7¼″ x 16″ Universal Pump (New) with V Belts
1—4½″ Baash-Ross Kelly
1 Set—4½″ Drive Bushings
1 Set—4½″ B. J. Elevators
1 Set—4½″ B. J. Rotary Tongs
1 Set—4½″ Mission Slips
1 Set—72″ B. J. Elevator Links
1—7½ KW Light Plant with FCU Waukesha
1—8′ x 12′ Steel Dog House
1—Steel Tool Box
1—6¼″ x 30′ Drill Collar
1—Lines Scale Weight Indicator
1—American Type L Overshot
1—1⅛″ x 1350′ American Drilling Line
1—Wisconsin 10M Centrifugal Pump with 50′-2″ Hose
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1—250 Bbl. Steel Water Tank on skids
All Necessary Hand Tools (List furnished)
1—2½″ x 50′ Rotary Hose
1 Set Steel Pipe Racks

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■ For Sale: 1 Ideal 10 x 10 double drilling engine, A-1 Condition. Price $200.00. 2 Ideal 6¾ x 12 x 14″ drilling pumps. Price $150.00 each. Located my yard, Vicksburg, Mississippi. D. H. Williams.

■ WELL DRILLING machines, cable tools, bits, stems, jars, cable, bailers, blocks, elevators, engines, boilers, fishing tools. Write S. W. Pressey, Pueblo, Colo.

■ FOR SALE: Power Rig and Derrick, complete less drill pipe, powered with two GAK Waukeshas. Oil bath draw works, Wilson Snyder Pump, suitable for workover or drilling. Call or write R. O. Harris, Eunice, Louisiana.

■ FOR SALE: New 384′ 6″ 23.50 lb. 8 thd. Emsco Screen Pipe; New 209′ 5-3/16″ 17 lb. 11⅛ thd. Inserted Emsco Screen Pipe; New 169′ 4¼″ 13.75 lb. 10 thd. Emsco Screen Pipe. E. E. Eversole, Box 386, Healdton, Oklahoma.

■ FOR SALE: Oil and gas leases on structure and in shallow territory. Will furnish one or more leases for drilling contracts. W. P. Harley, Bowling Green, Kentucky.

■ 1—13⅛ x 20—Bessemer Compressor Cylinder, $400.00; 4—12 x 12—Ingersoll-Rand Compressor Cylinders, $200.00 each. Lesh & McCall, Nocona, Texas.

FOR SALE BY OWNER AT SILICIA, KANSAS WAREHOUSE

125,000 ft. Used 3″ Upset Tubing
20,000 ft. Used 2½″ Upset Tubing
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3,300 ft. Used 3″ Upset Cement Lined Tubing
50,000 ft. Used Jones Type 7 Sucker Rods ⅞ & ¾
3,000 ft. New 3½″ 150 lb. test Johns-Manville pipe with fittings
500 ft. New 4″ 150 lb. test Johns-Manville pipe with fittings
2,000 ft. New 6″ 150 lb. test Johns-Manville pipe with fittings
3,600 ft. New 7″ 24 lb. 8 Rd. Thd. Seamless Steel Casing Grade H-40 Range 2
3,200 ft. New 7″ 24 lb. 10 V Thd. Seamless Steel Casing Grade H-40 Range 2
4,000 ft. Used 7″ 24 lb. 10 V Thd. Seamless Steel Casing Grade C Range 2
5 Lee C. Moore Standard Rig fronts with 11′ band wheels complete with 5 O.C.S. counter-shaft clutches, Happy Idlers for long & short belts and 40 H.P. Weber gas engines, galvanized iron engine houses & belt halls that have been Tnemecized.
5 94′ Ideco 330,000 lb. galvanized derricks, Tnemecized complete with galvanized bolts, two sheave crown blocks and guy wires. Standing.
1 94′ Ideco 330,000 lb. galvanized derrick complete with two sheave crown blocks. Not erected.

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ewl of e 220 ac of J. C. Wofford sur No. 502, abnd 1427 ft.

Vic M. Gamblin et al's Smith 1, 630 ft snl 960 ft ewl HT&B Ry, sect 73, abnd 1165 ft.

Callahan County—Failure: Harold G. Neely et al's Seale 1, 1300 ft snl 990 ft ewl T&NO Ry. sect 5, abnd 1256 ft.

Coleman County—Failure: J. L. Collins & Co.'s Morris-Miller 1, 1880 ft nsl 1000 ft ewl HT&B Ry. sect 16, elev 1589 ft, Bend 2264 ft, white li 2755 ft, abnd 2895 ft.

Jones County—Oil Discovery: M. M. Travis et al's Nobles 2, 990 ft nsl 330 ft ewl of 87¼-ac lse, B. Travino sur No. 190, elev 1666 ft, Dothan 1542 ft, Tannehill 1802-22 ft, Flippen 1934 ft, L. Hope 1959 ft, Hope sd 2147 ft, pump 4 bbls oil, 3 bbls wtr, used 250 gals acid 1937-48 ft, td 2188 ft, pb 1948 ft.

Stephens County—Failure: Sinclair Prairie's Curry 1, 330 ft out nec TE&L Co. sect 2264, elev 1280 ft, Bend 3450 ft, Ellenburger 4207 ft, abnd 4250 ft.

WEST CENTRAL TEXAS NEW PAY TEST

Stephens County—Failure: T. P. Coal & Oil Co.'s Morrison 1, 330 ft out swc TE&L Co. sect 1026, elev 1247 ft, Bend 3284 ft, Mississippi 4620 ft, Ellenburger 4632 ft, abnd 4903 ft.

Stephens County—Deep Oil Discovery: Texas Co.'s Parks 47-A, 330 ft out nwc TE&L Co. sect 3373, elev 1272 ft, Bend 3175 ft, Marble Falls 3609 ft, Mississippi 4047 ft, pump 9 bbls, 1000 gals acid in Ellenburger li 4102-07, 4150-54 ft, td 4305 ft, pb 4162 ft.

SOUTHWEST TEXAS WILDCATS

Jim Hogg County—Failure: Robert T. Wilson's John Allen 1, 467 n of swl of sur 289 2400 e of swl sur 280 on 962-ac lse, 2 mi e of Randado, elev 731.8 ft, abnd 3630 ft.

Webb County—Failure: Dulup Oil Co.'s Bruni 9, 1320 fr el 660 fr nl blk 74 330 s of well No. 7, on 640-ac lse, Albercas Gr, Brown subdvn, abnd 2133 ft.

LOWER TEXAS COAST WILDCATS

Bee County—Failure: Dash Prod. Co.'s Holzmark 1-C, 5150 fr nel 2725 fr nwl of J. A. York sur on 339-ac lse, abnd 4156 ft.

Jackson County—Failure: Renwar Oil Corp.'s L. R. Hollingsworth 1, 467 fr s&el of w½ of blk 20 on 1485-ac lse, Eli Mercer Gr, abnd 4866 ft.

HELP WANTED

—WANTED—

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ADVERTISING RATES

TRADING POST SECTION

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Trading Post Section, The Oil Weekly
P. O. Box 2608 Houston 1, Texas

Jim Wells County—Oil Discovery: Bridewell's Ramon Garcia 1, 330 fr nl 4200 fr wl Ramon Garcia 400-ac lse, La Trinidad Gr, 1 mi s of Ben Bolt fld, elev 186 ft df, sand 4376 ft, perf 36 shots 4376-82 ft, flow 156 bbls 36-gr oil, 0.2% wtr, ¼-in, tp 100 lbs, cp 600 lbs, gor 346/1, td 4440 ft.

Refugio County—Failure: Jack W. Frazier's Jas. F. Welder Heirs 1, 330 fr nel 407.4 fr el 330 fr sl 80-ac lse, CEPI&M sur, 5 mi NE of Greta, sso 5667 ft, abnd 6511 ft.

UPPER TEXAS COAST WILDCATS

Chambers County—Failure: Sinclair Prairie's Modeste White 1, 2310 fr nl 330 fr el 259.2-ac tr and E. H. R. Willis sur on 1317-ac lse, abnd 8810 ft.

Hardin County—Failure: American Republics-Houston O. of Texas' Maggie Maxwell 1, 1977 fr nl 525 fr wl 713 fr el Singleton sur on 40-ac lse, 75 sw of Silsbee city limits, elev 77.5 ft, abnd 8420 ft.

UPPER TEXAS COAST NEW PAY TESTS

Liberty County—Kirby Shallow Oil Discovery: General Crude's C. F. Garbs 2, 722 fr el 660 fr wl 330 fr sl 44-ac tr, M. Duncan sur, sd 3478 ft, no perfs, flow 59.3 bbls 22.1-gr oil, 0.1% wtr, ¼-in, tp 285 lbs, cp 350 lbs, gor 360/1, td 3485 ft.

Wharton County — Daboval Oil Discovery: Amerada's Jennie M. Smith et al 1, 660 fr a&el 80-ac lse, sw¼ sect 59 ETRR sur, ¾ mi n of disc well, elev 100 ft df, M. Frio sd 6300 ft, perf 26 shots 6300-09 ft, flow 65 bbls 42.8-gr, ¼-in, tp 1250 lbs, gor 5243/1, Disc 4595 ft, Het 4850 ft, Frio 5222 ft, Vicks 7158 ft, td 7317 ft.

EAST TEXAS WILDCATS

Houston County — Failure: Woodley Pet. Co.'s L. J. Murray 1, 4000 ft n 17,350 ft w of swc of I. Lopez sur, in John Durst sur, elev 170 ft, Midway 5070 ft, base Wilcox 4815 ft, Pecan chalk 6800-7116 ft, Austin chalk 7567-7797 ft, Sub-Clarksville 7849 ft, Woodbine 7969 ft, abnd 8042 ft.

EAST TEXAS NEW PAY TEST

Cherokee County—Rusk Pool Failure: Humble's New Birmingham 1, 2205 ft snl 2571 ft wel of 1121-ac tr and Levi Jordan sur A-28, offset depleted Woodbine oil wells, elev 441 ft, Pecan 4037-4390 ft, Austin 4915-5156 ft, Woodbine 5156 ft, Georgetown 5762 ft, Paluxy 6838 ft, Glen Rose 7165 ft, 1st anhy 8441 ft, massive anhy 8620-8890 ft, James 9390 ft, Pettit 9830 ft, abnd 10,297 ft.

NORTH TEXAS WILDCATS

Archer County—Failures: D. H. Bolin et al's Young 2-A, 1750 ft wel 1550 ft nsl of TE&L Co. sect 2487, abnd 1540 ft.

D. H. Bolin et al's H. Harmel 1, 1825 ft nsl 1885 ft wel of TE&L Co. sect 2459, abnd 1505 ft.

Republic Nat. Gas Co.'s C. Wells 1, 150 ft nsl 450 ft ewl of m/s/s&wl of W. A. Hassell sur A-755, abnd 1238 ft.

Clay County—Failure: Fain-McGaha-Drilling & Exploration's Frey 1, 660 ft out nwc blk 103, Parker CSL, elev 897 ft, Bend 5712 ft, Ellenburger 6578 ft, abnd 6666 ft.

Cooke County—Failure: Sam Y. Dorfman et al's Townsley 1, 330 ft nsl 2450 ft ewl of Wm. Slingland sur A-897, abnd 1616 ft.

Haskell County—Failure: Hunter & Hunter's Wood 2, 4822 ft snl 4800 ft wel of sect 46, L. Dyches sur, A-118, Palo Pinto 3360 ft, abnd 3613 ft.

Throckmorton County — Failure: Bridwell Oil Co.'s Cook 1, 150 ft s&w of m/s/sec of sect 3, but in sect 1, J. D. Hardin sur, A-209, abnd 1381 ft.

Wichita County — Failure: V. A. Fisher-Frank Wood's Krohn 1, 600 ft snl 150 ft ewl of e½ sect 28, H&GN Ry.-Waggoner Colony blk 220, abnd 2482 ft.

TEXAS PANHANDLE NEW PAY TEST

Moore County—Failure: Phillips (was Shamrock O&G Corp.'s) W. H. Taylor 2, c sect 11, blk 1, J. Poitevent sur, elev 3326 ft, Blaine 645-1015 ft, Glorietta 1015 ft, brown dolomite 2558 ft, Arkosic dolomite 3640 ft, Mississippi 5200-5460 ft, Osage 5814 ft, Kinkerhook 6070 ft, Hunton 6160 ft, Viola 6211 ft, Simpson 6260 ft, Ellenburger 6327 ft, Basal Ellenburger 6565 ft, 5,700,000 gas, 5000 gals acid regular Permian pay 2558-2779 ft, td 6709 ft, pb 2910 ft.

WYOMING OUTPOST

Park County—Elk Basin Failure: Mackinnie's N. P. R. R. 12, ne nw se 5-57n-99w, 1st Frontier 2697 ft, 2nd Frontier 3003 ft, Cloverly 4237 ft, crossed Dakota fault at 4870 ft, elev 4912 ft, abnd 5975 ft.

WESTERN CANADA WILDCATS

South Alberta Plains — Conrad Discovery: Mid-Continent O&G-East Crest Oil Co.'s No. 1, lsd 2 8-6-15w4th, Ellis sd 3152 ft, flow 75 bbls 27-gr oil, est 250-300 bbls on pump, td 3158 ft.

Alberta Foothills Belt—Sullivan Creek Failure: Phillips' No. 1, lsd 3 22-18-5w5th, abnd 2666 ft.

Southern Saskatchewan—Lloydminster Discovery: National-Grant 1, lsd 4 14-49-28w3rd, L. Cret. sd 1870 ft, pump 46 bbls 14-gr, td 1872 ft.

Southern Alberta Plains — Princess: California-Standard Company's Princess-C. P. R. 76-22A, lsd 12 22-20-12w4th, abnd in Devonian Dolomite 4178 ft.

WILDCAT STARTS

ALABAMA

Washington County: Wayne Refining Co.'s Willie Mitchell 1, 330 ft n 360 ft w sec nw ne 12-8n-3w, dk.

CALIFORNIA

Glenn County: Richfield Oil's Afton Comm. 2-1, 34-19n-1w, Butte City area, lcn.

Kern County: J. J. Tavis' 3, 8-27s-28e, Mount Poso area, lcn.

Union Oil's Kern Co. 34-12, 12-31s-25e, Coles Levee area, lcn.

U. S. Drilling Co.'s Garner 1, 24-28-28, Shark Tooth area, lcn.

Hancock Oil's 1, 12-30s-28e, Mountain View area, lcn.

J. S. & L. Oil Co.'s Childs-Wall 1, 9-32s-37e, Mojave area, lcn.

Los Angeles County: Loren H. Hillman's West Hawthorne 1, 17-3s-14w, Hawthorne area, lcn.

Texas Co.'s S. Covina Comm. 5-1, 18-1s-9w, lcn.

Union Oil's Sansinona 15, 30-2s-10w, La Habra area, lcn.

Orange County: Al Prisbrey's Jefferson 1, 21-6s-10w, Costa Mesa area, lcn.

Santa Barbara County: Union Oil's Strarke 1, 24-4n-29w, Elwood area, lcn.

San Luis Obispo County: Norris Stamping & Mfg. Co.'s Dresser 1, 4-27s-13e, Paso Robles area, lcn.

ILLINOIS

Edwards County: H. C. Hagemann's Koenecke 1, sw ne se 20-1n-10e, lcn.

Jefferson County: A. K. Swann et al Fuller 1, sw ne nw 13-2s-1e, lcn.

Marion County: Magnolia's Robinson 1, nw nw nw 10-2n-4e, dr.

Saline County: John T. Peek's Rawley 1, ne se nw 29-7s-5e, lcn.

Wayne County: Ashland O&R's McLin 1, ne se sw 33-1s-8e, lcn.

Nash Redwine's Crews 1, se se se 6-2s-9e, lcn.

Ashland O&R's Malt 1, nw nw se 30-1n-8e, lcn.

A. K. Swann et al's Veatch 1, se nw se 8-6s-8e, lcn.

INDIANA

Posey County: Bristol Hackbusch's Rexing 1, se se se 24-5s-12w, lcn.

Spencer County: B. N. Pohn's Lufk 1, nw se nw 4-8s-6w, lcn.

KANSAS

Barber County: Cities Service's Smith 1-F, se cor 24-30s-13w, lcn.

Barton County: Black Marshall Oil Co.'s Miller 1, sw sw se 3-16s-12w, lcn.

Lauck & Moncrief's Bock 1, ne ne se 30-18s-11w, lcn.

Leavenworth County: Brewer & Kelly's Thomas, sw cor se 24-11s-22e, dr.

McPherson County: Barbara Oil Co.'s Blaine 1, c s½ nw nw 36-17s-1w, mirt.

Pratt County: Sinclair Prairie's Peters 1, ne cor sw 31-29s-15w, lcn.

Reno County: Phillips-Lion-Sunray's Baden 1, sw sw nw 16-26s-10w, lcn.

Stafford County: W. P. Faulkner's Faushier 1, nw cor 25-21s-13w, lcn.

Virginia Drlg. Co.'s Fischer 1, ne se se 25-21s-13w, dr.

Mid-Plains-Ainsworth's Heneisen 1, nw cor 6-21s-14w, lcn.

Champlin O&R Co.'s Guthrie 1, sw se ne 10-25s-11w, lcn.

Sumner County: Barnsdall's Hare 1, ne cor 13-31s-3w, lcn.

Carter Oil Co.'s Latimer 1, c nw ne 12-33s-2w, lcn.

NORTH LOUISIANA

Bossier Parish: M. H. Sneed's Lodwich Lumber Co. 1, 2340 s 330 w nec 29-19n-11w, lcn.

SOUTH LOUISIANA

Avoyelles Parish: Don Crosby Drlg. Co.-Industrial Crude's Snowden Est. 1, 3705 e 280 s of nwc 22-3n-5e, 7500-ft Wilcox test.

MICHIGAN

Bay County: Michigan Oil Co.'s Jackett 1, sw nw nw 30-16n-4e, rig.

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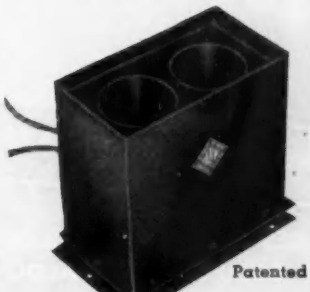

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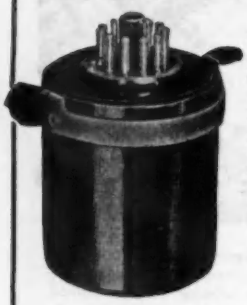

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Clare County: Mich. Consol. Gas Co.'s Frizzell 1, c ne 23-17n-5w, lcn.

Isabella County: Wicklund Development Co.'s Hein 1, se se se 13-14n-6w, dr.

Midland County: Walton & Stewart's Crane 1, se se se 1-16n-2e, lcn.

Kent County: S. L. McCall's Hutchins 1, ne ne sw 25-9n-11w, lcn.

Tuscola County: E. E. Brehm's Cain 1, sw sw se 34-11n-8e, dr.

MONTANA

Toole County: Perry-Linville & Smith's Jacob 1, c nw 10-32n-2e, dk.

Texas Co.'s Wier 2, nw ne ne 4-33n-1e, lcn.

NEBRASKA

Dawes County: Amerada's State 1, c ne se 16-33n-49w, dk.

NEW MEXICO

Lea County: Geo. P. Livermore's I. C. Breckon 1, c nw nw 7-18s-39e, 4⅝ mi ne of Hobbs fld, lcn 6500-ft Clear Fork test.

OKLAHOMA

Beaver County: L. R. Laughlin's Tee 1, c w½ se 13-6n-21ecm, dr 1247 ft.

Garfield County: Globe O&R Co.'s Batchelder 1, nw ne nw 28-22n-3w, mim.

Garvin County: C. W. Roodhouse's Warren 1, se se ne 34-4n-1e, rur.

Grady County: Olson Drlg. Co.'s Pfile 1-B, se sw se 29-3n-7w, rur.

Murray County: Burgess-Ellis et al's Wolf 1, nw ne nw 17-1n-2e, dr 2443 ft.

Noble County: Deep Rock's Trehey Jr. 1, ne se nw 18-23n-2w, lcn.

Pottawatomie County: Wood Oil Co.'s McPherson 1, se nw nw 9-6n-3e, rig.

J. J. Fleet's Fowler 1, ne sw sw 1-10n-4e, lcn.

WEST TEXAS

Andrews County: Sinclair Prairie's Ratliff-Bedford 2, c nw nw PSL 10, blk 73, lcn deep test.

Glasscock County: Sunray Oil Corp.'s J. L. Glass 1, c of common line between sects 30 & 31, blk 22, H&TC Ry. sur, 9000-ft Ellenburger test.

Martin County: Mabee O&G Co.'s John Mabee 1, c sw sw sect 8, blk 38, T-1-N, G&MM B&A sur, 5200-ft test.

Terry County: Honolulu Oil Corp.'s A. L. Lockett 1, c ne sw E.L. RR. Co. 22, blk E, 7500-ft Clear Fork test.

WEST CENTRAL TEXAS

Callahan County: Harold G. Neely et al's J. W. Brown 1, 330 ft out nec sect 1, S.P. Ry. sur, lcn.

Jones County: R. H. Roark-L. F. Hooker's W. H. Myatt 1, 1905 ft nsl 2627 ft ewl T&P Ry. 1, blk 15, lcn 2150-ft cable test.

SOUTH CENTRAL TEXAS

Dimmitt County: Bennett Bros. Drlg. Co.'s Mary Brauchman 1, 660 fr sw&sel Antonio Manchaca sur 9, on 2560-ac lse, lcn.

SOUTHWEST TEXAS

Duval County: Argo Oil Corp.'s Dionicio Garcia 1, 330 fr e&sl 642.8-ac lse, 4300 n 330 w of swc sect 38 on Jose Marcello Hinojosa Gr, 6000-ft test.

Starr County: T. E. Stephens' Procopio Guerra et al 1, 467 fr w&sl tr 34 porc 107 on 517-ac lse, 30 mi nw Rio Grande City, 4000-ft test.

LOWER TEXAS COAST

Goliad County: Magnolia's R. F. Irby 1, 660 fr se&swl 2471.5-ac lse, Jos. Callahan sur, 12 mi sw of Goliad, 10,000-ft test.

Fred W. Shield's Wm. Altman Est 1, 467 fr swl 500 fr sel 100-ac lse and B. P. Tomlinson sur, 2 mi s of Slick fld, 8000-ft test, dr 1833 ft.

Jackson County: Louis Crouch's S. G. Drushell 1, 330 fr ne&sel 160-ac lse, Morris & Cummings sect 13, Mayo area, 6000-ft test.

Karnes County: Magnolia's D. O. Klingeman 1, 467 fr nly nw&swl 672-ac lse, Jas. Bradberry sur, 9 mi sw Karnes City, 8000-ft test.

Refugio County: United Prod. Co.'s Leopold Veselka 1, 467 fr nwl (Mission River) 2800 fr sl 235.1-ac lse, Bonnie View subdvn sect "A," 7500-ft test.

TEXAS GULF COAST

Harris County: Texas Gulf Prod. Co.'s Mary L. Ingersell et al 1, 467 w at ra fr el WC RR sur and 731.4-ac lse, in sect 4, elev 93 ft. 8000-ft test.

Madison County: West Prod. Co.-Noranda Oil Co.'s H. M. Bering 1, 467 out of nec 100-ac lse, Amy Boatwright sur, 7½ mi sw of Madisonville, 9500-ft test.

Matagorda County: J. A. Gray's Chas. Beyer 1, 330 fr n&el 80-ac lse 2300 fr nl 330 fr el sect 14 I&GN sur, 6500-ft test.

Wharton County: Sam G. Harrison's R. B. Wallace-R. H. Hancock 1, 990 fr nl 466 fr sl sect 6 1066 sw of Harrison's Mauritz 1, on 100-ac lse, L. L. Miller sur, elev 75 ft, 6500-ft test.

EAST TEXAS BORDER COUNTIES

Nacogdoches County: Magnolia's Harrell 1, William Wray sur, 2½ mi sw of Waterman, ru.

Harrison County: Roger Lacy's J. R. Tuttle et al 1, 1320 fr wl 2600 fr nl 4200-ac lse in J. M. Clifton sur, lcn.

EAST TEXAS

Hunt County: N. G. Landrum and R. B. Campbell's W. H. Adams 1, 330 ft nsl and 799 ft wel of 100-ac tract, H. T. Chenowith sur, lcn.

NORTH TEXAS

Archer County: C. Y. Gorman et al's L. A. Moore-L. K. Hyer 1, 150 ft snl 300 ft ewl lot 13, sect 20, ATNCL sur, lcn.

Young County: R. J. Watson et al's J. H. Choate 1-B, 150 ft out nwc TE&L Co. sect 259, lcn.

Cooke County: H. D. Egger's Milton Wade 1, 330 ft snl 1650 ft ewl of Jos. Worley sur A-1129, 6 mi se Gainesville, lcn 2900-ft test.

Hollandsworth Drl. Co.'s W. A. Mathews 1, 330 ft out nec of 70-ac tr 1400 ft ewl 330 ft snl of Robt. Ekey sur A-357, sp.

Jack County: Hanlon & Buchanan's C. L. Whitsett 1, 1945 ft fr nel 1218 ft fr swl lot 22, sect 2, BBB&C Ry. sur A-1475, 2⅛ mi ne of Hoefle fld, lcn Ellenburger test.

Wichita County: S. F. Hutcheson, Jr. et al's Paul Cody 1, 150 ft nsl 922 ft ewl of blk 320, Waggoner Colony Lands, lcn 1950-ft rotary test.

WYOMING

Carbon County: Texas Co.'s James 1, c se se 35-13n-92w, Baggs anticline, lcn.

Weston County: Frank Eblem Syndicate's Govt. 1, se sw nw 24-44n-63w, dr.

WESTERN CANADA

South Alberta Plains—Princess: Standard et al's Toronto Syndicate 1, se lsd 1 6-22-13w-4th, dr.

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Not a Chance

Old lady (to little boy smoking a cigarette): "You better stop doing that or you'll never become president of the United States."

"Aw, that's okay, lady. I'm a Republican, anyway."

That Explains It

A man with a black eye and one or two other injuries entered a hospital. The desk attendant began to fill out the regular form.

"Married?"

"Nope. Automobile accident."

Puttering Around

"Well, what excuse have you got for coming home at this hour of the night?"

"Well, my dear, I was playing golf with some friends and—"

"What! At 2 a.m.?"

"Sure. We were using the night clubs."

Apologies to Winston

"How is the girl situation around your camp, Sergeant?"

"Girls, you say? My friend, never have so many pursued so few with so much and obtained so little."

She Knows the Holds

"I want to see the captain of this ship."

"He's forward, miss."

"Oh, that's all right. I've been out with lots of high school boys."

How Many Fingers?

"Lady," snarled the cop, "don't you know what I mean when I hold up my hand?"

"Why, of course I do. I'm a school teacher."

The Warriors

The little guy strutted up to the bar and ordered two whiskies from the husky bartender. He tossed one down his throat and poured the other in his vest pocket.

The process was repeated six times.

"Say," demanded the barkeep, "what's the idea of pouring all that whiskey in your vest pocket?"

"Shut up and mind your own business or I'll knock your block off," the runt snarled.

At that moment a little mouse poked his head out of the pocket and growled, "Yeah, and that goes for your———cat, too!"

Daughter to Be Proud of

"How is it, young man, that I find you hugging and kissing my daughter? How is it, I say?"

"Well, if you really want to know—it's simply great!"

The March of Time

"Is your wife as pretty as she used to be?"

"Yes, but it takes longer."

Fair Evidence

"How do you know he had been drinking?"

"Well, he shook the clothes tree and started to feel around on the floor for the apples."

Definitions

Bachelor: A guy who didn't have a car when he was young.

Bore: A person who has flat feats.

Lipstick: Something that adds a new flavor to an old pastime.

Kitty, Kitty

The doctor and his new wife were walking along one evening when a pretty girl smiled and spoke to him.

"Who is the lady, dear?" asked the wife.

"Oh, just a girl I have met professionally."

"Yes, darling, but whose profession? Yours or hers?"

Caught Short

He came home after a very large evening and began undressing. Suddenly his wife cried out. "Henry! Where is your underwear?"

"Omigosh," he moaned. "I've been robbed!"

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Made in 2, 3, 5, 8, 10, 15 and 20 gallon sizes with Push-Button Faucet.

GOTT Water Coolers are the convenient way to keep drinking water handy to the worker, protect it from impurities. Their exclusive construction keeps water cool for long periods. Snug fitting large removable top, handy non-leaking push button faucet. GOTT Water Cans for handy field use. Your Supply Store has them, get one today! . . . .

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& UNDERWRITERS'
LABORATORIES

—for use in atmospheres containing Methane or natural gas, gasoline or petroleum vapors.

This double-safety lantern has a tamper-proof reflector and cover with locking device and seals. Throws 1500 ft. beam. Instantly ejects broken bulbs from battery circuit. Large handle—360° pivoting feature gives direct illumination where needed and leaves both hands free for work.

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3100 W. Cherry St. Milwaukee 8, Wis.

Roy J. Tribby, for several years Vanderbilt district production superintendent for Magnolia Petroleum Company, will leave shortly for Colombia, South America, where he will be connected with the Socony Vacuum Oil Company.

C. G. Worthy of Luling will succeed Tribby as production superintendent in the Vanderbilt district with Walter M. Pittman relieving Worthy as superintendent in the Luling district for Magnolia.

William T. O'Connor has been elected vice president of Manning, Maxwell & Moore. He will be in charge of purchases and will have headquarters at the home office in Bridgeport, Connecticut. He has been associated with the company as purchasing agent since 1928, when The American Schaeffer & Budenberg Company was purchased.

Carl A. Zapffe, assistant director, research division, Rutless Iron & Steel Corporation, Baltimore, Maryland, spoke at the April meeting of the Mid-Continent Section, AIME, his subject being "Gas-Metal Systems."

John R. Sandige of San Antonio, Magnolia Petroleum Company, is the new president of the Society of Economic Paleontologists and Mineralogists. Other officers include **J. Brooks Knight,** Princeton University, vice president; **H. B. Spenzel,** University of Texas, secretary-treasurer, and **J. Marvin Weller,** Illinois Geological Survey, editor.

C. M. Bovard has been promoted from chief draftsman to design engineer for The Cooper-Bessemer Corporation, Mount Vernon, Ohio. **Ralph H. Schlosser** takes his place as chief draftsman.

Paul Charrin, former vice president and general manager of Schlumberger Well Surveying Corporation, is opening an office as an independent geophysical consultant and engineer at 913 Union National Bank Building, Houston 2. He was with Schlumberger for almost 20 years.

Paul Charrin

Charrin is a mining engineer and geologist, having graduated with honors from the Paris School of Mines, in France, in 1924. The first book on geophysics published in French, by the Bureau of Mines of Algiers, was written by him. He is a naturalized citizen, a member of the American Petroleum Institute, the American Institute of Mining and Metallurgical Engineers, the American Association of Petroleum Geologists, and other technical societies.

H. W. Fisher, manager of the Chemical Products Division of the Standard Oil Company of New Jersey, has been elected a director of the company. Fisher joined Standard Oil Company of Louisiana in Baton Rouge in 1927, working on high pressure hydrogenation of oil and coal. He continued work on hydrogenation development until after plants had been constructed at both the Baton Rouge and Bayway refineries, and then he was transferred to what are now known as the Esso Laboratories of Bayway. For a time he was assistant director of the laboratories.

H. W. Fisher

R. W. Harris, research geologist for Phillips Petroleum Company in the West Texas-Permian Basin for two years, has been transferred to Jackson, Mississippi, where he will specialize in sub-surface and correlation work in the Southeastern States.

Ernest J. Frueh has been appointed acting director of supply and transportation for District 2 of the Petroleum Administration for War, at Chicago, succeeding Paul Bond.

Bond has returned to The Pure Oil Company, with headquarters in Chicago.

Harvey Hardison, manager of the West Texas development and production operations of the Standard Oil Company of Texas, has transferred headquarters from Houston to Midland.

W. Lloyd Haseltine, Wichita Falls district geologist for Magnolia Petroleum Company, was elected president of the North Texas Geological Society. **Charles Canfield,** Stanolind Oil & Gas Company, and **J. R. Davis,** The Superior Oil Company of California, were chosen vice president and secretary-treasurer, respectively.

Walter W. Brown is geologist in charge of the new district office established by The Sohio Petroleum Corporation in the Hamilton Building, Wichita Falls, having previously served with the company at Oklahoma City. The company opened a two-pay oil area on the Young-Archer County line last year, and proposes to materially increase its production in the district through development and acquisition of properties.

R. O. Biering of Conroe, Texas, and associates have organized the Biering Well Service, Inc., with capital stock of $20,000 and headquarters at Conroe. **A. J. Eastham** and **K. S. Ingram,** both of Houston, are co-owners.

Walter Dick Hodges is the West Texas representative of the Schoenfeld-Hunter-Kitch Drilling Company, Tulsa firm that has been given permit to operate in Texas with district office at Odessa.

Deaths

W. H. Lassen, independent oil operator of Wichita, Kansas, was fatally injured April 10, in an automobile accident. Lassen, 49, was the son of the late Henry Lassen, Wichita financier, and had just completed a wildcat well reviving the old Winfield pool in Cowley County, Kansas.

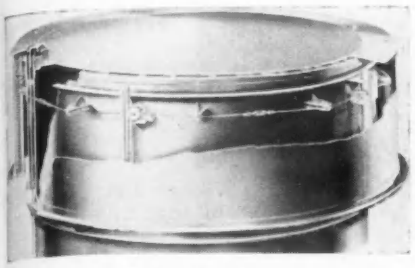
James Eugene Ward, Gulf Coast division service manager for the National Tank Company, died in Houston April 8. Ward, 42, was in National Tank's oil equipment service and maintenance department for 17 years.

Michael B. Carmody, Shreveport, retired gas and oil man, died April 7. Carmody started his career in the gas business when the Bradford and New York state field of Richburg were discovered. He had been associated with a number of natural gas interests throughout Pennsylvania, Ohio and West Virginia and laid many of the first gas lines and distributing systems to cities in these states while with the Ohio Fuel Supply Company.

Harry J. Brown, 52, pioneer oil man of Oklahoma, died in Tulsa, April 7. A native of Edmond, Oklahoma, he was active as a drilling contractor and oil producer, operating 16 strings of tools and owning considerable oil producing properties principally in West Texas, and had interests in producing properties with Sloan and Zook of Bradford, Pennsylvania, and other oil companies. He was president of the M-B-K Drilling Company, the Tower Producing Company, the Southwestern Drilling Company, and the Washita Company.

W. Lawrence Rushmore, in the engineering department of the Gulf Oil Corporation, died in Tulsa, April 6. He was 42 and had lived in Tulsa for three years, going there from Kansas. His birthplace was Carthage, Missouri.

Allen Williams, geologist and oil operator, died in Houston April 8. Williams, 41, was former district geologist for Midstates Oil Corporation.



1—Vapor-Lift Tank

Hammond Iron Works, Warren, Pennsylvania, has developed a "Vapor-Lift" roof tank designed to stop breathing losses, reduce filling losses and preserve the quality of the stored product. The tank provides a variable vapor space of ample capacity to permit the expansion or contraction of vapors, and the vapor space is positively sealed so vapors cannot escape.

Chief feature of the tank is a stabilizing apparatus which insures the roof being kept level regardless of lateral wind or unbalanced snow loads. These stabilizers consist of gear and rack units and are synchronized by a continuous chain and cable with take-ups. Roller guides on non-corrosive bearings insure true vertical alignment of the roof during its travel. All equipment is located outside the tank.

An oil seal and dip ring seal the vapor space. The dip ring, an integral part of the roof, rides in the oil chamber, reducing and enlarging the vapor space in the tank. The liquid seal chamber is filled with an oil selected to meet the lowest operating temperature and seals the dip ring to prevent the escape of vapors.

The weather skirt is of reinforced, rigid construction to form a canopy which protects the liquid seal and the stabilizers against the elements.

The outer rim of the roof incorporates a heavy circular girder that maintains the shape of the roof constant under all working conditions and insures trouble-free operation.

A drip ring attached to the under side of the roof just inside the tank shell serves as a barrier to prevent vapors which condense on the under side of the roof plates from getting into the liquid seal, thus conserving these vapors and at the same time maintaining the original gravity of the liquid seal.

Under normal conditions the roof will rest on the roof supports as in the conventional cone roof tank. As the volume of vapor in the tank tends to increase, the roof will rise to make room for the increased vapor, lowering itself when the volume of vapor tends to decrease.

A single "Vapor-Lift" roof tank can be provided with excess vapor capacity to accommodate the breathing of additional cone roof tanks. The tanks are available in sizes up to 100,000 barrel capacity.

2—Rubber Cement

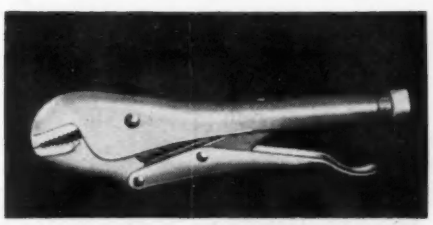
The B. F. Goodrich Company, Akron, Ohio, has perfected a rubber cement called Plastilock 500, a non-thermoplastic, water and aromatic oil-resistant adhesive for bonding metals, wood, plastics and ceramic materials.

The adhesive, used for metal-to-metal bonding, has shown a shear strength of 3250 pounds per square inch. Tension strengths of 4000 pounds per square inch have been reached. Tests made after the bonding of wood and plastic to aluminum, which presents extremely difficult problems of adhesion to other materials have resulted in the wood and plastic being torn because the strength of the bond was greater than that of these materials.

3—Vise-Wrench

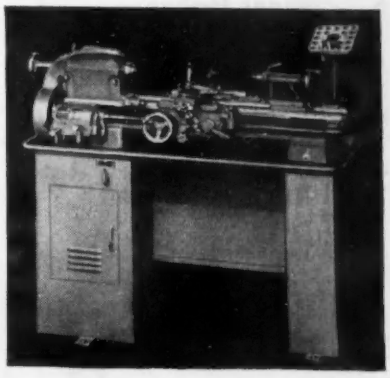
Knu-Vise, Incorporated, 2200 Eighth Street, Detroit 16, Michigan, has introduced a vise-wrench which it is said combines the portability, convenience and simplicity of a pair of pliers with the advantages of the powerful grip of a locked vise.

An adjusting screw conveniently located at the end of the hand grip sets the jaws for any thickness within the capacity of the tool. This permits



each gripping action to lock the jaws and hold work to the desired pressure and to remain locked without the aid of the hands. When ready to release, the grips are opened as easily as in the case of ordinary pliers. A normal hand grip is capable of building up as much as 1200 pounds pressure at the jaws.

The jaws are of alloy steel forging with milled teeth heat treated for extreme hardness and wear resistance, welded to the stamped body which is also heat treated. The wrench is 10 inches long, has a jaw opening to 1¼ inches, and weighs 18 ounces.



4—Tool Room Lathe

South Bend Lathe Works, South Bend 22, Indiana, has developed a 9-inch toolroom lathe for exacting toolroom or production operations. This lathe has a 9¼-inch swing and takes 22 inches between centers. It has a maximum collet capacity of ½-inch and a ¾-inch spindle bore.

The 12 spindle speeds range from 41 to 1270 revolutions per minute, with back-gear drive for the lower speeds. A quick change gear box permits cutting 48 pitches of screw threads, 4 to 224 per inch; and provides 48 power longitudinal feeds and power cross-feeds. The lathe is equipped with a handwheel draw-in collet attachment, collet rack, taper attachment, thread dial indicator, thread cutting stop, large and small face plates, and micrometer carriage stop. Additional attachments are available which simplify the machining of special classes of work.

5—Pump

The Aldrich Pump Company, Allentown, Pennsylvania, has added a three-inch stroke, 20-horsepower unit to its line of pumps. The pump is primarily recommended for boiler feeding, desuperheater feeding, pipe line, process charging and proportioning, or wherever accurate, automatic control of delivery is important.

Use This Coupon for Additional Information

FOR YOUR CONVENIENCE: Check or circle the numbers identifying the information you want; mail this coupon to The Oil Weekly and your request will be promptly sent to the manufacturer. To avoid delay be sure to indicate your complete mailing address.

THE OIL WEEKLY
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Please have the manufacturers send me, without obligation, more information or literature on items checked below. (Numbers correspond to descriptive paragraphs as shown in April 16 issue of The Oil Weekly):

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9	10	11	12	13	14	15	16

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(Print or type clearly name, company and address)

6—Plunger Hanger

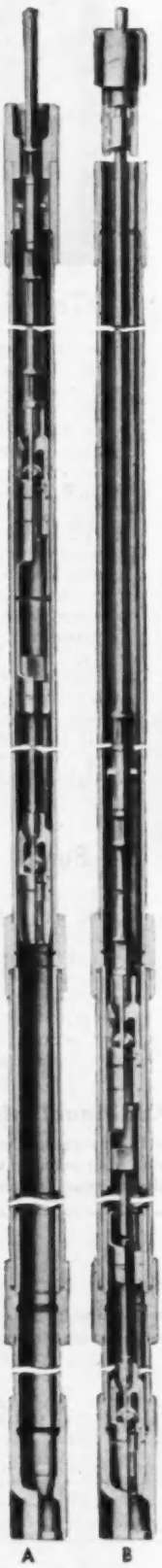
The D B Division of Emsco Derrick & Equipment Company, Los Angeles, has developed a plunger hanger for use on D B oil well tubing liner pumps, which it is said will revolutionize certain pumping operations of the industry. The device permits use of a larger size tubing liner pump on a smaller size string of tubing.

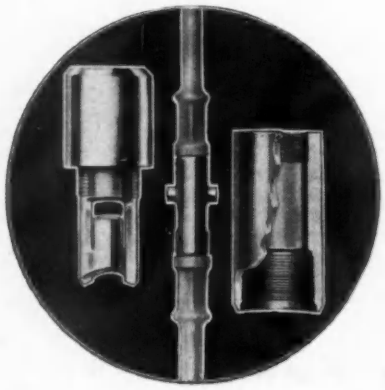
The plunger hanger is composed of three parts—a top half with a sleeve at its lower end, which connects to the small tubing, a bottom half which connects to the upper half giving support to the sleeve, and a special sucker rod coupling, with a pin protruding through the sides.

To install the plunger hanger one joint of tubing must be used of the same size as that of the pump to be used. For example, if a 3-inch tubing liner pump is to be run on a string of 2½-inch upset tubing, one joint of 3-inch upset range 3-inch tubing is made up in the top end of the pump. At the time the pump is being lowered into the well the plunger is suspended in the joint of large tubing with the protruding pins on the sucker rod coupling located in inverted "J" slots. After the tubing is lowered in the well, the sucker rods are lowered and screwed on the rods already in the well. In order to start pumping it is necessary to raise the sucker rods slightly so the protruding pins of the sucker rod coupling clear the lips of the "J" slot, turn to the left a quarter turn, and then lower the plunger to the pumping position. The standing valve can be released and the pump is ready to start operation.

In pulling the pump, the plunger is lowered to pick up the standing valve in the conventional manner. Then the plunger and standing valve are raised by means of the sucker rods to completely remove the plunger and standing valve from the liner column into the upper joint of tubing. As this is done, the protruding steel pins on the sucker rod coupling are guided into the "J" slot, the rods are turned a quarter to the right, and lowered to rest in the slot provided. In this position the plunger and standing valve are hung in the joint of tubing above the pump, allowing the oil to drain around the special sucker rod coupling, plunger and standing valve. The "J" slot then acts as a clutch in breaking the sucker rod string.

After the sucker rods have been removed from the tubing, the tubing can be removed from the well. The fluid will drain through the pump, permitting the tubing column to empty the oil contained in it as it is pulled.





Use the Coupon

For additional information on these products see coupon on preceding page.

Section A of the photograph at left shows the plunger hanger made up with a D B Tubing liner pump, with the plunger and standing valve removed from the liner column and suspended in the joint of large tubing immediately above. The protruding pins on the special sucker rod coupling are located in the "J" slot in the lower end of the top half of the hanger. This position of the plunger and standing valve permits the oil to drain around the special sucker rod coupling, plunger and standing valve.

Section B displays the position of the plunger hanger while the pump is in operation. For purposes of illustration, the top half of the plunger hanger is shown separated from the lower half. Note that the standing valve has been released and the plunger is in normal pumping position.

Literature

7—Crane

Silent Hoist Winch & Crane Company, 841-877 53rd Street, Brooklyn, New York, has issued a catalog, N. 58, describing and illustrating the Krane Kar Mobile Swing Boom Crane. The catalog consists of 24 pages and includes 74 photographs and diagrams, including on-the-scene shots highlighting the apparatus in loading, unloading and transporting materials.

8—Tube Cleaning

Thomas C. Wilson, 21-11 44th Avenue, Long Island City 1, has released a service bulletin on tube cleaning procedure.

Supplied in the form of a step-by-step check list, this information covers selection of appropriate equipment, proper cleaning procedure, care of cleaning equipment, and listings of types and sizes of motors, cutters, brushes and other accessories required. Illustrations identify the equipment described and recommended.

9—Hydraulic Presses

John S. Barnes Corporation, Rockford, Illinois, has issued a bulletin, 501-P, which illustrates and describes its line of hydraulic presses.

10—Electric Timers

C. H. Stoelting Company, Industrial Division, 424-P North Homan Avenue, Chicago, 24, Illinois, has published bulletin No. 1100, describing electric timers. The bulletin describes table model stop clocks, wall model stop clocks, precision chronoscopes, combination timers and impulse counters, stop watch controllers, and spring wound X-ray timers.

11—Pipe and Casing

Naylor Pipe Company, 1250 East 92nd. Street, Chicago 19, Illinois, announces publication of catalog No. 44, presenting illustrated data and oil industry applications of Naylor Lockseam Spiralweld pipe and surface casing. Copies may be secured by writing the company or from Mid-Continent Supply Company, Fort Worth.

12—Protective Coating

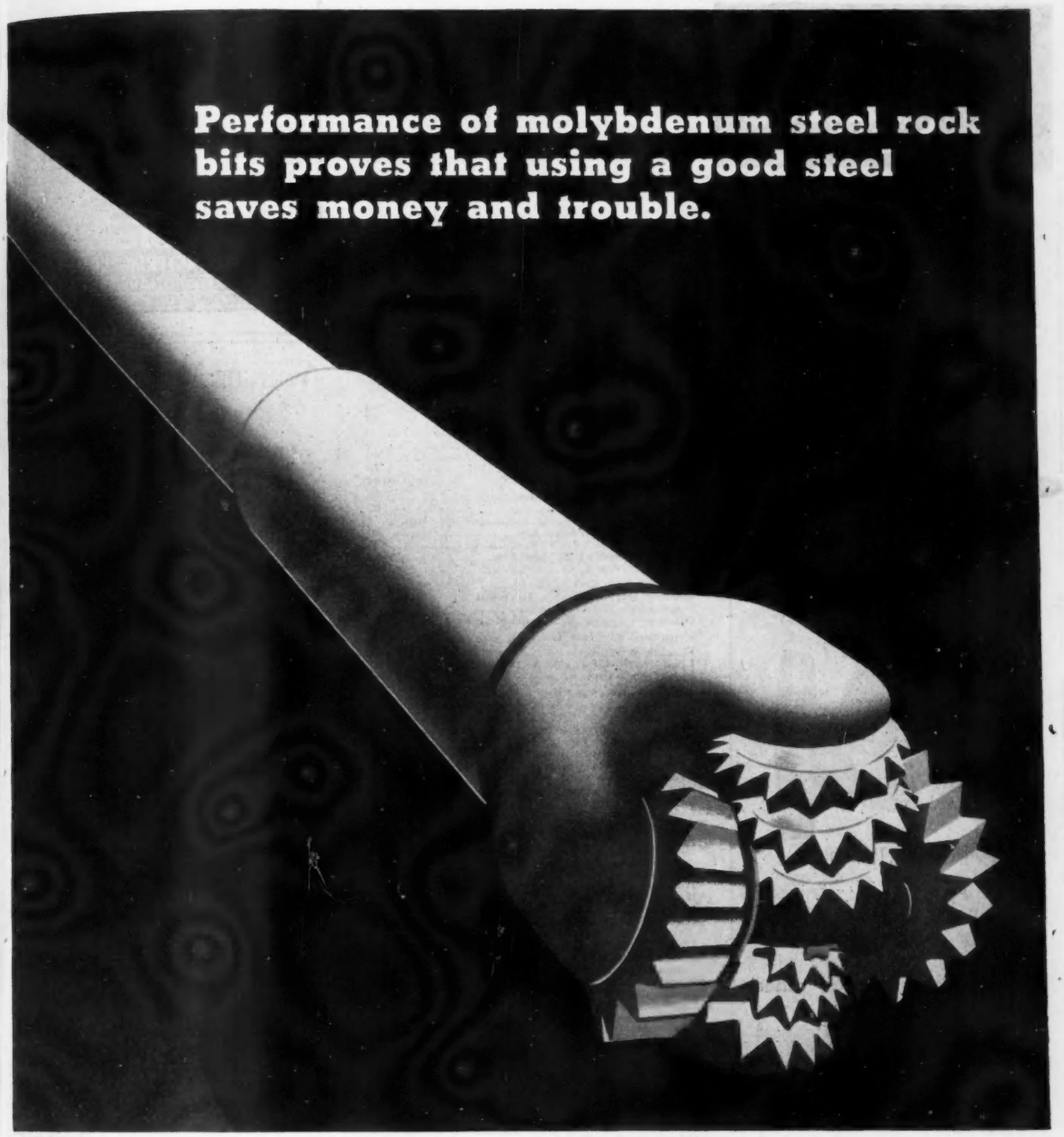
Reilly Tar & Chemical Corporation, Merchants Bank Building, Indianapolis 4, Indiana, has released a booklet which describes typical application of protective coatings for metal, brick, cement and wood surfaces. It also describes creosote paint for creosoted wood blocks, poles, guard rails and posts.

13—Steels and Heat

The Timken Roller Bearing Company, Canton, Ohio, has published a booklet on high temperature properties of steels. The publication is a compilation of lectures presented before the 1945 spring lecture course of the American Society for Metals, Golden Gate Chapter, San Francisco, California, by Dr. C. L. Clark, metallurgical engineer of the Timken Roller Bearing Company.

The booklet contains over 100 illustrations and is a basic treatment of the factors involved in the selection and performance of steels at high temperatures.

Performance of molybdenum steel rock bits proves that using a good steel saves money and trouble.



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The **ORBIT VENTURI TYPE VALVE** is manufactured with Stellite "J" Metal Seats which will not only withstand the abrasion of sand but is also corrosion resistant to all types of crude oil.

Orbit Venturi Type Valve

This valve can be furnished thru all fabricators of Xmas Trees or thru any of your local supply stores at a price comparable to that of other leading valves. The Orbit Valve requires no lubrication to effect a seal.

See 1944 Composite Catalog
Pages 2193 to 2212

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ORBIT VALVE COMPANY
TULSA, OKLAHOMA

J. M. Kessler, Oklahoma independent, is opening an office in Jackson, Mississippi. He has been blocking leases in southern Mississippi since the first of the year.

J. Lynn Overlees, L. R. Burnett and **W. R. Luke** of Oklahoma City have organized the Bluff Creek Oil Company.

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